Engine Support Bracket.

Type:

Stenhoj.

Description:

Welded each side of a threaded centre boss are two pairs of 1" x 1/4" thick steel bars in parallel, each having nine 1/4" diameter holes spaced equally along their length and giving a total overall width of 27 3/8".

Held between each pair of bars by pins are the two vertical hooked rods 3/4" wide x 3/4" thick which also have six 1/4" diameter holes.

Fitting around each pair of bars is a steel collar with thumb-screw which is used to clamp against the vertical bars to retain them in position.

Method:

The support bracket is initially offered up to the engine to be supported and the vertical bars located in an appropriate position for width and height. The hooked ends may then be located upon any convenient substantial part of the under-chassis and the centre pad screwed up to bear upon and support the engine unit.

Summary:

With the range of adjustment available, the support bracket is suitable for BMC cars having their gearboxes mounted behind the engine.

Use of the bracket enables engines, still in the vehicle, to be supported whilst gearbox units are removed and replaced, thereby relieving undue strain upon engine mounting rubbers.

Concessionalres:

J. S. Hobbs Limited,
6, Stanley Road,
London E.I.

January 1967

P. T. O.
**B.M.C. SERVICE LIMITED**

**SERVICE DEVELOPMENT & TECHNIQUE BULLETIN**

**Equipment:** Make It Yourself - Tool Board.

**Purpose:** To make the fitters hand tools more readily accessible.

**Description:** The tool board has been placed on the rear of a mobile bench, so that a mechanic can easily locate any of his basic hand tools.

For support, the base board has been attached to a lightweight 'slotted' angle framework bolted onto the bench itself.

The base board is a piece of 5 ply, plywood, to which a thin sheet of 'pegboard' has been added for decorative effect.

To support the individual items 1/4" long by 3/16" diameter set screws are used with nuts placed either side of the baseboard. Alternatively, spring tool board clips can be used to advantage on certain items.

Small tools, such as centre punches, feeler gauges, chisels and tee-bar spanners can be stored in a wood block attached to the baseboard in which 5/16" diameter holes have been drilled.

If the support frame is produced in the form of a channel section it would enable a facing piece of plywood to be inserted and allow a hatch and lock to be applied.

**Size:**

- Suggested height = 2 ft, 6 ins.
- Width to suit bench.

**Summary:** By the use of this tool board considerable time can be saved when looking for any individual item.

A BMC Service Limited suggestion to aid workshop efficiency.

January, 1967

P.T.O.
The British Motor Corporation Limited
BMC Service division

SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

Headlamp Alignment Gauge.

"Lev-L-Lite".

To provide accurate aiming of sealed beam units only and particularly those cars which have four headlamps fitted.

The complete kit consists of a left and right hand aimer, suitable for both 5½" and 7" light units; a transit and target for checking floor level; two adaptor rings; for use with 7" light units and an instruction chart.

The transit and target are used to face each other on the same side of a vehicle and the wheelbase apart. Based on the split image principle and using a built-in spirit level a reading is obtained to be used as the floor correction figure for both mechanical aimeders.

Each mechanical aimer assembly is held in position on the three timing pads on the headlamp lens, by a powerful rubber suction cup.

Here again the spirit level and split image principle is used in the design of the aimeders and lateral aim is correct when a single image appears in the viewing port. After setting the aimeders for the required angle of dip, vertical aim is correct when the spirit level is balanced.

Requirements by BMC: Nil.

To save time on the headlamp checking function it is advisable to use a specific floor area within the workshop of known floor level. The floor correction could then be pre-set on the mechanical aimeders thereby obviating use of the transit and target each time.

Summary:

Almost an essential piece of equipment when checking your headlamp system, the Lev-L-Lite ensures, by accurate aiming, that none of the advantages of sealed beam light units are lost by inefficient beam adjustment.

Suppliers:

Joseph Lucas (Sales & Service) Ltd., Great Hampton Street, Birmingham 15.
£31.5.0d.


P.T.O.
The British Motor Corporation Limited
BMC Service division
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

Equipment: Vehicle Tester.

Model: 113349 Automatic Control Chassis Dynamometer.

Purpose: To facilitate fault analysis by providing power and acceleration values of a vehicle within the workshop.

Description: The unit comprises two pairs of close-coupled 20" diameter rollers mounted within a main frame assembly. The coupled back roll shaft incorporates a pair of heavy-duty disc brake units mounted between the rear rollers at the power absorption medium. A nest, pillar-mounted Control Panel contains the graduated speedometer and Load Factor dials together with a time clock remotely triggered from within the vehicle. Side rollers are built into the adjustable roller safety covers and coupled metal wheel checks are also provided. A portable electric cooling fan is an optional extra for duration tests.

The remote automatic control system offers three characteristics namely (a) Constant load (b) Automatic load and (c) Variable load. Respectively, these tests permit constant gradient, power curve, extended acceleration and intermittent transmission load tests to be undertaken.

Basic Specification: Speed Range 0-120 m.p.h., Load Capacity 0-150 units.
Maximum power capacity 300 BHP
Torque capacity 1,000 lbs ft.
Max. Axle Load 5,000 lbs. Acceleration Timer 0-10 seconds.

Services Required: Compressed Air 70-150 lbs. sq.in. Voltages to suit requirements.

Summary: As an aid to the operator, display lights on the control panel indicate particular load characteristic selected and actual load range in use. Soundly constructed and well finished throughout, the dynamometer provides a valuable asset within a workshop especially when used in conjunction with electronic diagnosis and flowmeter equipment.

Manufacturer: Laycock Engineering Ltd., Willhouses, Archer Road, Sheffield 8,

U.K. Price at time of printing: Model 113349 Dynamometer £2,205.0.0d.
Model 113434 Cooling Fan £157.10.0d.

September 1969.
The British Motor Corporation Limited
BMC Service division

SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

Geared Nut Wrench

PLARAD Model XV

Purpose:
For ease of removal of the larger more stubborn nuts such as those used on commercial vehicle road wheels and U bolt nuts.

Description:
The kit comprises the planetary geared wrench with T bar handle and extension for use when additional leverage is required, torque reaction arm, 1" square drive, 1 1/2" Whit socket and a spare safety shear pin, all contained in a metal tool box.

With the handle engaged in its recessed position, direct drive is achieved for the initial 'running up' of nuts or bolts. When snapped out, a geared ratio of 12:1 is obtained offering a maximum torque of 3,600 lbs ft.

The carrier tube on the wrench body has a coarse spline to allow several positions for the torque reaction arm, and scale marked on the top of the wrench body gives a close approximation to torque loading when the wrench is used for tightening.

A ratchet operated model No.XVR is also available for use in confined areas.

Services Required:

Summary:

Robustly constructed yet compact in overall dimensions the Plarad XV is well finished in nickel-plated chromesteel. A built-in safety shear pin, which is replaceable, limits the torque to a maximum of 3600 lbs ft.

In practice, the gearing within the wrench overcomes stubborn and rusted nuts with a minimum of manual effort and delay.

Dimensions:
Length 12" overall
Width 3" Body Diameter
Weight 15 lbs.

Supplied By:

U.K. Price at time of printing:
Model XV £44.10.0d. Ratchet operated Model XVR £54.15.0d.

August 1968.
The British Motor Corporation Limited  
BMC Service division

SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

Equipment: Pneumatic Orbital Sanders

Models:
1) D.A.6 'Dual Action' Sander
2) 165 'Dual Action' Sander

Purpose: To reduce finishing times and skill required on bodywork pre-painting preparation by taking over work previously undertaken by hand.

Description: Both units described are of similar outward appearance and construction. Compressed air enters at the base of the handle, then via a speed control regulator and operating valve and lever, drives the vanes motor.

Dual action is produced through an off-centre sanding pad that revolves independently of the driving head.

Method: Abrasive discs are attached to the 5" blank disc backing pads, by means of pressure sensitive adhesive then in operation the entire pad may be applied to the surface or it may be tipped to enter a radius.

Services Required:
Item 1) Compressed Air at 45/75 p.s.i.
Item 2) Compressed Air at 75/80 p.s.i.

Recommendations by BMC:
A moisture trap in the air line is desirable to prevent rust and seal in the mechanism.

Summary:
Both sanders have produced good quality results in practice primarily due to the 'dual action' which produced a non-repeating surface pattern eliminating scratches and the abrasive does not get 'loaded', since there is less heat generated.

Platting and 'feather-edging' can be achieved on most finishes also levelling of body fillers is easily carried out.

Dimensions:
Overall length including disc 10" 11½"
Overall weight 3-lb. 12-oz. 3½-1½ lbs

Suppliers:

UK Prices at time of Printing:
Model D.A.6. = £49.10.0d.
Model 165 = £49.0.0d.

August 1968.
The British Motor Corporation Limited
BMC Service division
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

Equipment: Electrical Soldering Equipment.
Models: 'Expert' and 'Heavy Duty' Soldering Guns
'Marksman' Soldering Irons
Temperature controlled Soldering Irons

Purpose: For general light soldering operations within the workshop.

Description: The soldering guns are trigger operated and are designed to give
instant heat at the tip. The 'Expert' model has dual heat of 100/140
watts and both the 'Expert' and 'Heavy Duty' have built-in spotlights
to give illumination in dark areas.

The 'Marksman' series are of conventional design having a range of
25/40/60/120/175 watt models in 240 volts or 110 volts and all tips
are pre-tinned and nickel plated.

The Temperature Controlled Irons are similar in appearance to the
Marksman series but use a thermal-magnetic sensing element in the tips
to maintain a constant pre-determined tip temperature. Using mains
voltage these are available with 60 watt or 100 watt tips, alternatively,
for repetitive bench work, low voltage models with 12 or 24 volt heating
elements, having 15/60/120 watt tips, are available for use with a
transformer bench unit incorporating a spring holder and wet sponge pad.

Different profile tips are available for each model.

Services Required: Voltages to suit requirements.

Recommendations by BMC: For tidiness, safety and convenience the soldering guns and irons
should be securely wall-mounted for storage.

Summary: In practice the instant heat available at the tip of the soldering
guns makes them the most convenient to use.

The Maksman and Temperature Controlled Irons also give satisfactory
performance, are lightweight, and the handles remain cool in use.
Being of slim design they are suitable for access to confined areas.

Suppliers: 'Marksman' series and Soldering Guns available to the UK Motor and
Tool Trade from the distributors:

L.J. Hydesman & Co. Ltd.,
Grove Park,
London E.12.

Temperature Controlled Irons and other tools Overseas from the
Manufacturers:

Weller Electric Ltd.,
Redhill Way,
Horsham, Sussex.

MARCH 1968
The British Motor Corporation Limited
BMC Service division
SERVIC DEVELOPMENT & TECHNIQUE BULLETIN

Equipment: Cylinder Hone and Stand.
Models: JN-90/BMC (2.4" - 2.6")
AN-111 Hone Set (2.6" - 4.25") and UK-60 Stand.

Purpose: To remove scores, produce round and parallel bores to specified surface finish and to size bores to the appropriate piston grade.

Description & Method: Each hone set consists of the hone together with two stone sets (one roughing, one finishing) supplied in a strong metal case.

The Stand fits an adjacent bore without bolting and a drill having a speed of 350-450 rpm is suspended from the stand and connected to the hone.

Simple stroking stops are set on the stand and the stones are adjusted to the bore by means of the combined fine and coarse feed gear.

THE HONE IS USED DRY IN ALL APPLICATIONS.

The drill is switched on and the hone is stroked in the bore until the appropriate size is reached.

Where the stock removal is less than 0.003" finishing stones only are used, and give the specified surface finish. Where greater stock removal is required, roughing stones are used to within 0.003" of final size.

Services Required: Air or electrics to suit power source.

Recommendations by BMC: When the equipment is used with the engine in situ it is necessary to prevent the ingress of swarf.

Summary: The range of the AN-111 may be extended from 2.5" - 9.0" with additional stone sets.

Under test, the hone satisfactorily achieved its purpose in all respects simultaneously maintaining the original bore alignment.

Manufacturer: Sunnen Products Co., St. Louis, Missouri, U.S.A.

UK Sole Agents: George Kuikka Ltd., 176 Hatfield Road, St. Albans, Herts.

MARCH 1968
Sanding Kit

3M Speed Sanding Kit

To provide in kit form a complete system to speed the overall bodywork refinishing operation when using conventional rotary sanders.

Contained within a partitioned metal box are two types of disc pad, one male and three female quick change sanding couplings, disc retaining nut and locking key and an assortment of sanding discs. Space is also available in the Tool Box for a cone mandrel, disc pad adhesive, bandsander and belts available as optional extras.

As illustrated overleaf, the male coupling is fitted to a rotary sanding machine head. Then with disc pads and different grit sanding discs fitted to the female couplings, a variety of sanding heads becomes available to the operator.

Electric to suit sanding machine used.

Designed to be used in grit sequence so that the sanding operation is completed using the 8" dia. disc pad and the production paper discs affixed by adhesive to its surface, the kit has shown to shorten overall refinishing times.

The simple and quick method of changing discs makes the system versatile and convenient in use and is the main time-saving factor.

25" x 10" x 12½"

Minnesota, Mining & Manufacturing Company Limited,
3M House,
Wigmore Street,
London, W.1
Equipment: Flashing Indicator System/Unit Tester.

Model: B.404. 'Flashalyser'.

Purpose: To rapidly locate irregularities whilst testing Lucas FL5 Flasher Units also the circuit of a 12 volt 4 bulb direction indicator system.

Description and Method: Housed in a metal container with carrying handle the instrument face is centrally divided to facilitate and define the vehicle system test on one side and the flasher unit test on the other.

To test for possible faults in the wiring circuit, indicator switch and pilot lamp of the system, the flasher unit is removed from the vehicle and substituted by the three pin plug from the 'Flashalyser'. With the vehicle ignition switched on, the indicator switch is operated several times in the left and right positions. A short Circuit Indicator Lamp on the instrument will determine, by its behaviour, if a fault exists.

An ammeter is incorporated which records the current reading, when the system test switch is depressed, to enable bulb wattage to be checked.

To test the flasher unit of the vehicle for operation and correct flash rate, a suitable socket is provided on the instrument together with indicator and pilot lamps and switch. For this test two leads, with clips are provided for connection to a 12 volt battery.

Summary: The tester, being portable, has shown itself to be able to readily diagnose and locate faults in flashing direction indicator systems, thus achieving a considerable saving in time and eliminating the trial and error process of rectification, and would prevent the unnecessary replacement of satisfactory components.

Size: 11½" long x 6½" wide x 4½" deep.

Manufacturer: Crypton Equipment Limited, Bridgwater, Somerset.

February 1967
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

Equipment: Steam Cleaner.

Model: 'Handy Dandy'.

Purpose: For the dewaxing and degreasing of vehicles and equipment.

Description: A welded tubular steel frame which may be mounted upon casters or a tricycle carriage, houses a vertical steam coil, fuel, detergent and water tanks. Fuel for the burner unit is atomized by an air blower driven by electric motor which is also connected to a slow speed diaphragm water pump.

Method Of Use: Having secured the steam hose and appropriate nozzle, connection is made to the water and electricity mains and the motor switched on to give a steady flow of water.

With the fuel cock open, the torch is lit and placed squarely in the fire chamber opening whilst simultaneously opening the fuel valve until the atomized fuel ignites.

The fuel flow is then adjusted until the smoke just stops and within two minutes the pressure at the gauge will be seen to rise to the working range of 80 p.s.i.

When wet steam is observed at the nozzle it is ready for operation.

Services Required: Mains water supply.

230/250 volt single phase AC.

Recommendations By BMC: Steam cleaning operations should be carried out away from the general workshop area in view of the steam vapour emitted.

Summary: Steam dewaxing is preferred to manual wax removal since the fear of rubbing grit, adhered to the wax coating, into the painted surfaces is overcome by floating the wax away by steam and hot water.

Dewaxing is found to be most satisfactorily carried out using the manufacturers recommended procedure, however, the 'Handy Dandy' may also be used with the method described in Section 6 of the BMC Service Paint Manual.

Fuel: Paraffin or Diesel Gas Oil.

Dimensions: 35" long x 19" wide x 53" high. Weight = 3 cwt.

Manufacturers: WICKHAM INDUSTRIAL EQUIPMENT LIMITED,
Dashwood House,
Old Broad Street,
London E.C.3.

February 1967
Equipment: Vehicle 'side lift' Jack.

Model: 'Jiff-E-Jack' Garage Model.

Purpose: To enable one side of a vehicle to be raised to a 'wheel-free' condition.

Description: This vehicle jack, provides a simple mechanical means of raising a vehicle, which can be adjusted for additional height by repositioning the support peg.

Produced from a square section tubing with a round tie bar, the complete unit is finished in a bright yellow paint to make it conspicuous.

The two 5" diameter cast iron wheels also allow the jack to be easily moved about the workshop. The 'tee bar' handle is quickly detachable for carriage, but is sufficiently robust to raise the lighter saloon cars.

Operation: The spigot or adaptor is placed within the vehicle jacking hole and by applying leverage to the handle the vehicle is raised, and once the weight is 'over centre' the vehicle is firmly held.

By the use of a universal joint, the jack can be used at any angle to the car and once the vehicle is raised, the handle can be safely pushed beneath the vehicle.

Summary: Adaptors so far supplied are suitable for the BMC Mini, 1100, Minor 1000, Wolseley 1500 and Riley 1.5 Models.

Time saving can be achieved by the use of this vehicle jack, and it allows the more expensive hydraulic jack to be released for other work.

Size: Length 70" x Width 9½" x Height 14"

Manufacturer: Patrick Engineering Limited, Radipole, Weymouth, Dorset.

February 1967

Model.  Z.259.E. Bench Press.

Purpose.  For use in conjunction with the standard Blackhawk Port-o
Power push-ram and pump to provide a compact means of pressing or
straightening components.

Description.  Four oblong-section solid bars comprising the top and bottom
of the frame and these are connected by four vertical high tensile
steel rods.

The base brackets are drilled for mounting the Press Frame on
a work-bench.

A sliding lock collar is provided to fasten the ram unit to
the top two bars and two vee blocks are available for use when
straightening.

SERIAL No.  198

FILING REFERENCES

Hydraulic
Press  3

DISTRIBUTOR  1

DEALER  1

Services
Required.  Nil

Summary.  Combined with the 10 ton hydraulic ram and pump unit, the
Press Frame is a satisfactory means of providing pressure to insert
or remove bushes, bearings, oil seals, and all similar operations
encountered in vehicle service operations.

A quick release valve on the pump unit enables pressure to be
instantly released, the spring loaded ram is self-retracting and a
wide range of attachments, push pins, etc., are available.

Dimensions.  Width across press bed  = 15"
Clearance between ram and bed= 14½"
Space between cross-members = 3½"
Space between steel uprights = 3½"

Nett Weight.  107 lbs.

717, Tudor Estate,
Abbey Road,
Park Royal,
London N.W.10.

January 1967  P.T.O.
Impact Wrench (Pneumatic).

MODEL:
Air 'IMP' Wrench Kit - Model 1121.

PURPOSE:
For the rapid removal and replacement of nuts, bolts and screws on motor vehicles, to reduce service operation times and operator fatigue.

DESCRIPTION:
The main feature of this unit is that the small air motor is housed within the handle. The drive to the impact mechanism is taken by bevel pinion gears and the drive head resembles a recessed hexagon socket. Each socket is locked into the drive head.

The operating, or throttle lever, speed regulator control, forward/reverse dial and air inlet connection are situated at the base of the grip handle.

Included in this Kit are six hex. sockets, three universal sockets, a 4" extension bar, hexagon adaptor, a sparking plug socket and a flat attachment. This reversible flat attachment can be locked on to the drive head in one of eight positions to reach nuts or bolts in confined areas.

SERVICES REQUIRED: Moisture-free compressed air at 90 to 120 lbs./sq.in. maximum.

RECOMMENDATIONS
BY BMC:
Have resulted in deeper sockets being made available to accommodate the 'Stiffnut' type of locknut. An air line oiler will greatly benefit the air motor.

DIMENSIONS:
Overall length = 7½", side to centre = 1".
Net weight = 2½ lbs. Maximum Torque Output = 100 lbs. ft.

SUMMARY:
By building the air motor into the handle, an extremely compact and lightweight wrench design is achieved. Manipulation of tool is thus made easier with a consequent relief of operator fatigue.

Having a recessed drive ensures that the overall dimensions are kept to a minimum, enabling the wrench to enter and operate in confined spaces.

Further accessibility is available when using the flat attachment, however, this device should only be used on fastenings not exceeding 50 lbs. ft. torque.

SUPPLIER:
Skil (Great Britain) Ltd., 59 High Street, Hounslow, Middx.

MAY 1966

P.T.O.
EQUIPMENT: Electricians Tools.

MODEL: No. 8 Wire Stripper & Cutter.

PURPOSE: To enable the electrical wiring to be cut or the outer insulation to be removed.

DESCRIPTION: This hand tool has a pair of combined shearing and stripping blades, and red plastic covered handles.

A multi-gauge selector wheel is incorporated, which enables the jaws to be adjusted for depth of cut when the outer insulation covering is being removed.

METHOD: To cut cables to the required length it is placed between the cutting blade situated immediately in front of the pivot point and the handles closed. These blades cut cleanly thicknesses of up to 12 swg.

To strip the insulation the appropriate 'notch' of the selector wheel is placed over the stop, and with the cable placed between the jaws they are closed, thus cutting the material. With a sideways movement along the cable, the insulation is removed, leaving the wire undamaged.

This tool can also be used to separate extruded flex, by gripping the cable in the point of the jaws and pulling the cable away from the tool.

SUMMARY:
1. By selection of the depth of cut, according to the gauge of the cable, this ensures the inner wire is not 'nicked' during the stripping operation.
2. This cheap hand tool makes the electrician's task of wire stripping much easier and saves weakening the inner core.

SIZE: 9¾" long x 2½" wide x ½" thick.

MANUFACTURER: Multicore Solders Limited,
Multicore Works,
Hemel Hempstead, Herts.
Bib Wire Stripper & Cutter
MODEL B
WITH MULTI-GAUGE SELECTOR

- STRIPS INSULATION WITHOUT ROLLING WIRES.
- CUTS WIRES CLEANLY.
- COMFORTABLE GRIP WITH CUSHIONED HANDLES.

FOR ELECTRICIANS, RADIO & T/V ENGINEERS AND HARDY MEN
Template Former.

To enable an accurate copy of a complex shape to be quickly produced.

Through the centre of two halves of a pressed steel holder passes 160 steel needles each 0.036" diameter. These needles are firmly held in position by a friction pad, which allows each one to slide against its neighbour as pressure is applied.

With an effective length of 6" (15 mm) the former has a millimetre scale printed on the leading edge to aid positioning of the body.

For storage purposes the tool is packed in a neat plastic wallet.

The tool is gripped firmly and pressed against the object concerned, this action pushes the needles into the outline of the shape, thus giving a true copy which can be transferred as desired.

1. This tool is able to produce simultaneously the male and female form up to a depth of 13/16" or the form on one side to a depth of 1/4".

2. Where a greater length or a right angled shape is required, two formers may be joined together with the angle plate provided.

3. In Body Repair Shops this tool would have many uses especially where it is necessary to build up body contours to suit such things as lamp moulding, or where a body has been damaged on one side, the opposite panel can often be used as a guide to the original shape.

By the use of this versatile tool much time can be saved, not only by the Workshop personnel, but also by the maintenance staff when replacing tiles and floor coverings.

6 1/2" long x 3 1/2" wide x 3/4" high.

Temco Tools Limited,
Ferring Motor Yard,
Ferring,
Sussex.

APRIL, 1966
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: 'Heli-coil' Thread Replacement Equipment.

MODEL: 1/4 - 1/2 UNF.

PURPOSE: To replace damaged threads in major vehicle components.

DESCRIPTION: Supplied in a sturdy metal box, five separate sets covering the 1/4 - 5/16 - 3/8 - 7/16 and 1/2 UNF thread sizes have been combined with a universal insertion tool to cover the popular range of thread forms.

Each set is packed individually in a clear plastic box and contains at least ten thread inserts, a special thread cutting tap, insert nozzle and mandrel.

METHOD: The remains of the original thread is drilled out by using a twist drill of the same outside diameter as the original size screw.

The new thread is then cut by the tap provided, to accommodate the new insert.

To apply the insert, it is placed into the nozzle of the insertion tool with the slot in the mandrel located over the insert tang. The assembly is then placed against the hole and the insert screwed into position.

The tang may then be removed if the bolt is required to pass through the insert.

The threaded hole is then ready for use.

RECOMMENDATIONS BY BMC: Where possible a drill jig should be accurately positioned to ensure correct alignment.

SUMMARY: This method of reclaiming threads is well known throughout the industry, and is also used on original production in certain components, such as Aluminium Cylinder Blocks.

The set described covers many of the sizes used in the modern vehicle and enables corroded, damaged or worn threads to be permanently replaced.

SIZE: 1 1/2" long x 6 5/8" wide x 1 1/2".

MANUFACTURERS: Armstrong Patents & Co. Ltd., Eastgate, Beverley, Yorks.

MARCH 1966

P.T.O.
EQUIPMENT: Steam Cleaner.
MODEL: 'MINIMASTER 590'.
PURPOSE: For the cleansing or dewaxing of vehicles and equipment by the use of steam and/or hot water.
DESCRIPTION: A horizontal twin-helix steam coil in a heavy gauge steel outer shell is centrally mounted in a steel-frame chassis which has two 12" dia. rubber tyred wheels for mobility and two rear-mounted support legs.

Water and detergent tanks are sited in front of the steam coil with fuel tank immediately below it, whilst the operating controls, electric motor, burner unit with air blower, fuel pump and transformer are fitted to the rear of the unit. A forward-hinged metal cover gives access to all components.

OPERATION: Connect water mains to inlet to fill the tank, checking functioning of ball valve. Fit hose to steam outlet and connect nozzle to steam gun.

After filling the fuel tank and connection to mains electricity, the unit is switched on to allow a steady flow of water.

Upon opening the fuel valve, the burner will ignite thereby generating steam.

When using steam/detergent mixes the detergent tank is filled with the correct hot water/detergent proportions. Adjustment of the detergent valve will vary the proportion of the mixture discharged to suit requirements.

RECOMMENDATIONS BY BMC: Steam cleaning operations should be carried out away from the general workshop area, in view of the volume of steam vapour emitted.

SUMMARY: Steam cleaning is an efficient and time saving method of degreasing or dewaxing chassis or bodywork, engines and equipment about a garage premises.

Since there is no abrasive action during dewaxing, the risk of bodywork damage is largely reduced, provided the correct rubber-shrouded nozzle is used.

SERVICES REQUIRED: Mains water supply, 230/250 volt, 1 phase, AC.
TANK CAPACITIES: Fuel - 5 gallons; detergent mix = 6½ gallons; water heater = 3 gallons.
FUEL: Paraffin or Light Fuel Oil.
SIZE: 43½" long; 26½" wide; 33½" high. Dryweight = 336 lbs.
MANUFACTURERS: Kismet Ltd., Fenlake Works, Bedford.

MARCH, 1966  P.T.O.
EQUIPMENT: Portable Auxiliary Heater (Paraffin).
MODEL: Master B 155.
PURPOSE: To provide additional heating within a garage premises.
DESCRIPTION: This compact heating unit is mounted directly onto an integral 11 gallon supply tank, which in turn is supported on two large rubber tyred wheels at one end and the handle support loop at the other.

The paraffin is pulled from the tank by a small gear pump into a fuel filter, which then passes it directly into the burner tubes.

The fuel is ignited by two electrodes and the fan situated behind the burner head blows the incoming air through the combustion chamber and passes the heated air into the area concerned.

OPERATION: With an adequate supply of fuel in the tank, and the power feed connected to the main, the electric motor which drives the fan and fuel pump, is switched on.

After a period of five seconds to allow the pump to be primed the fuel supply tap is switched on and is automatically ignited by the patent burner and after burner.

SUMMARY:
1. The B-155 machine has a rated output of 150,000 B.Th.U's. an hour, and consumes approximately a gallon of industrial paraffin an hour.
2. Once the initial newness has burned off there is virtually no odour emitted from this machine.
3. Painted throughout in a bright yellow, with black support loops, the combustion chamber is insulated and a thermostatic temperature control is available.

A mobile space heating plant which only requires an electrical power feed can be a great boon to any premises, as instantaneous heat can be supplied in any desired position.

SERVICES REQUIRED: 110 or 220/240 volt, 50 cycle, Single phase.
SIZES: 38½" long x 17½" wide x 25½" high. Weight 90 lbs.
MANUFACTURER: Master Vibrator Company, Drayton, Ohio, USA.
CONCESSIONAIRES FOR UK: W. C. Youngman Ltd., 7 Camberwell Trading Estate, Denmark Road, London S.E.5.

FEBRUARY 1968
EQUIPMENT: Stationary Forms.

MODEL: Scribe Register.

PURPOSE: To enable a garage to issue receipts, ledger, memorandum and general accounting forms in duplicate or triplicate.

DESCRIPTION: Neatly housed within a grey plastic container, the continuous stationery cartridge provides a hundred individually numbered top and duplicate copies, seventy five, three part sets or fifty, four part sets.

Each form measures 4" wide x 6½" long and once all of the detail has been inserted on the top copy the sheets are then manually traversed. This is done by inserting the pencil or ball point pen in the slot at the top right hand side and by pressing downwards and forward, the paper moves sufficiently that it may be gripped and pulled forward until the plunger in the locating bar registers in the next sheet.

The copies are then removed from the register by tearing along the top serrations. The top copy or copies may then be issued and provision has been made in the back of the case for storage of the copy form.

SUMMARY: Replacement cartridges are supplied complete with one or two sheets of carbon paper according to the type, and is easily inserted into the case once the top cover is removed.

Illustrated overleaf is the General Counter Sales Form and among the replacement cartridges available are those intended purely for stores issue, forecourt sales, service and maintenance record, general memorandum and telephone pads.

For an extra charge any of the standard forms can be overprinted with the users name and address.

By the use of the stationery system much time and effort can be saved by garage personnel in producing orders and receipts.

SIZE: 8½" long x 4½" wide x 1½" high.

MANUFACTURER: Twinlock Limited, Beckenham, Kent.

SUPPLIED BY: Stationers and Office Equipment Dealers.

JANUARY 1966

P.T.O.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: 4 Post Electro-Hydraulic Lift.
MODEL: Liftmaster Mark I
PURPOSES: To raise cars and light commercial vehicles up to 3 tons total weight to any height up to 5' 11" above floor level.

DESCRIPTION & METHOD: Two platforms, having corrugated zinc-coated sheet steel surfaces together with the steel-free superstructure are positioned between four steel columns or posts. Each post is of a C-Section construction welded to a base plate for floor fixing. Situated at one corner is the hydraulic pump and oil container housing, the hydraulic ram and operating controls.

To elevate the lift the dead-man operating lever is raised. This cuts in the electric pump which pushes the hydraulic column upwards. Linked by cable and pulleys the platforms are thus raised evenly. At the desired height the lever is released which immediately stops the lift.

To suspend the vehicle wheel-free, the longitudinal members are positioned to the appropriate pick-up points using pads as necessary. The wheel-free lever is raised sharply to engage steel paws into slotted racks at each column, and the platforms lowered away from the suspended vehicle.

SERVICES REQUIRED: Single or three phase voltages to suit requirements.

SUMMARY:
(1) The complete wheel-free operation is extremely fast and simple to achieve and the ability to position the longitudinal members inside or outside the track of the vehicle offers good underbody accessibility. This facility may also be used when removing front or rear axle or heavy assemblies such as Mini or 1100 engine and transmission units.

(2) A tipping plate safety device prevents the lifts dropping more than 1/2" in the event of cable failure.

(3) Balcony staging may be added if the lift is later required for two level servicing.

(4) The various features of the Mark I Liftmaster combine to provide a most versatile equipment unit within a Service Workshop and as with all four post lifts is easily sited or re-sited.

DIMENSIONS: (Overall) Length 18' 4½" - Width 10' 7½" - Raised Height 12' 7½".

INSTALLATION: Fifteen (15) bolts to a level unscreeded concrete floor 5" thick.

MANUFACTURER: Joseph Bradbury & Sons Ltd., Braintree, Essex.

JANUARY 1966
EQUIPMENT: 'Pop' Rivet Kit
MODEL: Industrial
PURPOSE: To provide a means of joining sheet metal or other thin material together from one side.
DESCRIPTION: Consisting of a TF 55 hand setting tool, adjusting spanners and a selection of six different types of ⅜" diameter 'Pop' rivets, the industrial set has been introduced to cover the general needs of a garage.
Packed complete in a sheet metal box the inner compartments are produced from a moulded plastic, to separate the components.
METHOD: When joining two panels or pieces together, they should be firmly clamped and holes drilled in the appropriate place with a ¾" clearance twist drill.
A rivet of the correct length is then selected and the mandrel placed into the jaws of the hand tool. The action of clamping the handles pulls the mandrel through the rivet which expands the base, and when the predetermined pressure is reached the rivet mandrel shears to complete the operation.
SUMMARY: Rivets supplied in this set are suitable for metal material thicknesses up to 0.07, 0.12, 0.15, 0.17 and 0.20 and are produced in copper, aluminium, steel and moneal metal with approximately 100 of each in the various compartments.
Both countersunk and domed type heads are included to suit varying application.
Where 3/32", ⅛" or ⅜" diameter aluminium alloy rivets are to be used it is only necessary to replace the nose pieces.
The principle of 'Pop' Rivets are widely used throughout the motor industry, and whilst it forms a permanent joint due to its shape it may be readily drilled out if necessary.
MANUFACTURER: Geo. Rucker 'Byllet' Co. Ltd., Lichfield Road, Birmingham 23B.

JANUARY 1966

P.T.O.
SUBJECT: Front Wheel Alignment of '1800' (ADO 17) vehicle using Kismet Portable Wheel Alignment Indicator KWA 332.

As described in Technical Information Bulletin No.1 F 46 dated 16 June 1965, it has been found necessary to alter the front alignment setting of the '1800' vehicle from 1/16" toe out to a 1/8" toe in reading.

METHOD: For users of the Kismet Portable Wheel Alignment Indicator KWA 332 as detailed in Service Development and Technique Bulletin No.103, they will be aware that conventional rear-wheel-drive cars are pulled forward on to the gauge from a distance of two to three feet. Conversely, front-wheel-drive cars, such as the Mini and 1100 range, are pulled backwards on to the gauge from the same distance.

In each case a zero reading should be obtained for correct alignment or nil side slip per mile.

In the case of the '1800' vehicle with the new front wheel alignment setting, the car must be pulled backwards over the plate and a figure of five feet side slip per mile should be obtained for correct alignment.

If alignment is correct the five feet/mile reading will be indicated on the toe out side of the scale; however, users will realise that this is, in fact, toe in, since the vehicle is being drawn backwards over the gauge.
TITLE: Additional Lamps - Breakdown Vehicles.

INTRODUCTION: After two years of correspondence with the Ministry of Transport, concerning the use of Amber flashing lamps and rear facing flood lamps, we are now able to inform you of the amendments made to the Road Vehicle Lighting Regulations 1965 (SI No. 870) which came into force on the 1 June 1965.

An Amber flashing lamp may only be used at the scene, or in the immediate vicinity of a breakdown or accident.

In no circumstances may this lamp be used while the vehicle is proceeding to or from the incident.

With regard to the use of flood lamps, one or more White flood lamps may be used to illuminate the scene of the breakdown or accident.

We would, therefore, suggest that on every vehicle where these lamps are installed a warning notice as outlined below is fitted beneath the operating switches.

'These lamps must not be used whilst the vehicle is in motion.'
Body Repair and Checking Jig.

7-700

To provide a means of checking for body misalignment which may have been caused by accidental damage and to enable the vehicle under check or repair to be held within manufacturing tolerances.

The basic jig comprises two I-section beams which are set into the floor of the shop with cross ties, on which are mounted:

4 Transverse Members.
6 Short Beams.
4 Small Pedestals.
4 Large Pedestals.
4 Jack Mounts.
Various pillar studs, sliding blocks, bolts and clamps etc.

To the basic jig are fitted the individual check and repair bracket sets. These will be produced covering various models, and have started with those for the 1800, 1100 and all Mini models.

Method:

To establish what damage, if any, is located in a particular vehicle, the complete car is mounted upon the jig using the appropriate initial check adaptors.

Assuming that the initial check indicates that the damage is confined to either front or rear, dismantling is only necessary at the damaged end and repairs are carried out by combined use of repair and checking brackets.

Summary:

This checking jig has been developed in conjunction with engineers from Service Development Department. The design is such that the basic jig will accommodate, without alteration, adaptor sets for all models in the foreseeable future.

Since the unit is capable of checking the complete assembled vehicle, considerable dismantling time is saved when compiling estimates and in the repair of a vehicle where damage is confined to either the front or the rear. It also ensures that a correct repair is carried out to manufacturer's standards.

When not in use, the transverse members may be stored in adjacent shelves leaving the floor area unobstructed, since the beams are fitted flush with the floor surface.

Size:

Overall fitted length of beams = 14' 10"
Overall fitted width = 3' 9".

Manufacturer:

V.L. Churchill & Co. Ltd., P.O. Box No. 3, London Road, Daventry, Northants.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

Hydraulic Brake Servicing Unit.
P.C.L. Pressure Brake Bleed Unit Ref.No.5048 (Portable Model).

For the bleeding of hydraulic brake and clutch systems, by one operator using air pressure.

DESCRIPTION & METHOD:

Basically the equipment comprises two cylinders of different diameters but on the same axis and having their pistons interconnected.

To fill the equipment with brake fluid an air line coupling is applied to the adaptor midway between the two cylinders for a few seconds. The air pressure thereby returns both pistons to the charging position.

The larger or fluid cylinder, of one gallon capacity, may now be filled with appropriate fluid at the supply connection and the supply hose replaced. The unit is now tilted to remove any air lock in the sight window.

The appropriate master cylinder adaptor is now fitted to the vehicle and the fluid supply hose connected.

To pressurise the system, the air line coupling is connected to the adaptor at the extremity of the smaller or air cylinder and any air bubbles in the fluid supply hose removed by 'Bleeding' from the bleed screw on the adaptor cap.

Thereafter the system is ready for bleeding in the recommended manner.

SERVICES REQUIRED:
Compressed air supply at 100/200 lbs. per square inch.

LIMITATIONS:
1. If used on air pressure substantially below 100 lbs. per square inch, the operation takes somewhat longer to complete.
2. Care must be taken when disconnecting the supply hose from the adaptor cap upon completion should a small amount of spillage occur.

SUMMARY:
Robustly constructed and well finished against corrosion the unit is readily portable and can be used on a lift installation if required.

Useful features include an air filter in the air cylinder for protection against air line impurity and the sight glass window to indicate when the unit requires refilling.

SPECIFICATION: 26½" long x 8½" wide x 9 3/16" high.

MANUFACTURER: Pneumatic Components Limited, Eyre Street, Sheffield.

OCTOBER 1965

P.T.O.
B.M.C. SERVICE LIMITED

SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: SLAVE, BODY MOUNTING BRACKET

MODEL: To suit MINI Minor Range

PURPOSE: To provide a mobile support for the body when a complete sub-frame assembly has been removed.

DESCRIPTION:

This sheet metal mounting bracket may be bolted or welded to a standard six inch diameter swivel caster wheel and is placed into the slave bracket beneath the vehicle. When in position the body is kept parallel and can be easily moved about the workshop.

The basic dimensions are given overleaf and emphasis should be given to the accuracy in positioning, which is approximately 64 degrees. This tube should be adequately supported and have an ⅜ thick washer welded to the top to increase the support area.

The retaining bolt is made from 3/8 diameter bright mild steel and threaded ¾ Whitworth (easy fit) and is 3” long. A small chain mounted between washers welded along the shank prevents loss when being stored.

Sheet metal of 12 S.W.G. is used throughout and painted when complete to enhance the appearance.

The assembly may be gas or arc welded together and two of these are required at either end if both sub-frames are removed.

Recommendations by BMC

That this unit is used in conjunction with the Power Unit transporter described in B.M.T. No. 156.

SUMMARY:

By the use of this assembly, work can proceed upon the Power Unit and bodywork simultaneously thus reducing the 'off the road' time.

A BMC Service Limited suggestion to increase your workshop efficiency.
**B.M.C. SERVICE LIMITED**

**SERVICE DEVELOPMENT & TECHNIQUE BULLETIN**

**EQUIPMENT:** Wheel Balancing Machine.

**MODEL:** Motor Car

**PURPOSE:** To enable both dynamic and kinetic wheel unbalance to be corrected without removing the road wheel assembly.

**DESCRIPTION:** An electric motor, operating switches, electrical unit and indicator gauge are all combined within a fibre glass cover which is mounted on a four wheeled mobile base. A saddle for the operator's strobeoscopic lamp and tyre brake are externally mounted.

**METHOD:** Once connected to the mains power supply the assembly is wheeled into position facing the wheel to be balanced. With the vehicle raised on a trolley jack, the sensing pick-up probe is placed beneath the suspension member as close to the backplate as possible.

To balance the vehicle undriven wheels, the operator sits astride the machine and pushes it forward against the tyre whilst depressing the 'Motor' button. This will revolve the wheel and as any unbalance is felt by the pick-up probe a meter reading is shown on the indicator dial. At the point of maximum unbalance the 'Light' button is depressed which operates the strobeoscopic lamp to freeze the wheel.

The road wheel is then stopped and turned to the position shown when the wheel appeared stationary in the lamp and a corrective weight is then added to the wheel rim. If the position and amount of weight added is correct the meter needle will remain in the green zone.

For the dynamic unbalance check, the pick-up probe is placed horizontally against the brake back plate.

A similar procedure is used on driven wheels, although it is possible to use the engine to rotate the wheels.

**SERVICES REQUIRED:** Electricity 200/250 volt.

**RECOMMENDATIONS BY B.M.C.:** To prevent the opposite wheel of any pair influencing the balancing operation a wood block is described in Bulletin No. 166 should be used.

**SUMMARY:** Of compact design, this unit can be easily moved about the workshop to provide a positive means of overcoming unbalance in the road wheel assemblies.

**SIZE:** 40" long x 16½" wide x 27" high.

**MANUFACTURER:** Laycock Engineering Company Limited, Millhouses, Sheffield 8.

**SERIAL No.** 170

**FILING REFERENCES**

<table>
<thead>
<tr>
<th>WHEEL BALANCING</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTRIBUTOR</td>
<td></td>
</tr>
<tr>
<td>DEALER</td>
<td></td>
</tr>
</tbody>
</table>

**AUGUST 1965**

P.T.O.
TELESCOPIC MAGNETIC PROBE

'Nagnerprobe'

PURPOSE:

To retrieve small ferrous - base components which may have fallen into awkward positions or out of reach.

METHOD:

The probe which is manufactured from chromium plated brass tubing comprises nine sections which are telescopic and when closed, the overall length measures 5 1/2 inches.

Fully open, it measures 31 1/4 inches and at its widest section is 11/32 inches diameter.

The magnet which is set at the end of the widest section is capable of lifting components of up to 3/4 lb. weight, and a plastic collar is fitted over this end to prevent dragging against the surfaces of tubes or cylinders, when inserted inside them.

An end cap is fitted to facilitate the extension of the probe from the closed position and a pocket clip is also provided.

SUMMARY:

In practice the probe provides a useful retrieving service. It has also been successfully used for starting nuts or set screws in inaccessible positions, for example, the water pump lubricating screws.

Many additional uses will be found for this unit to save time and effort such as the dismantling of open assemblies or machinery into which a small part may inadvertently have been dropped.

The Nagnerprobe is well finished throughout and due to its compactness when closed and low weight of 1 1/4 ozs, it may be readily carried about by the operator so that it is available whenever required.

MANUFACTURER:

C. Denis & Co. Ltd.,
The Forum,
High Street,
Edgware,
Middx.

AUGUST 1965
To ensure correct operation, please consult the instructions provided in this manual.

The diagram illustrates the correct method of assembly. Please follow the step-by-step instructions carefully to ensure proper installation.

Diagram:

[Diagram of a mechanical component]
EQUIPMENT: S.U. FUEL PUMP TEST RIG.

MODEL: 9001

PURPOSE: For measuring the output of all types of S.U. electric fuel pumps in gallons of paraffin per hour, against the required suction and delivery heads.

DESCRIPTION: The equipment basically comprises a vertical metal panel to which is fitted the fuel pump clamp, the calibrated Flow Glass, delivery head pressure gauge, two electrical outlet sockets and an on/off switch.

This panel is fitted upon a stand which houses the paraffin container in a choice of three positions thereby allowing different suction heads to be applied.

METHOD:
1. With the appropriate flow scale and outlet jet combination selected, the sump pan positioned at the correct height, the fuel pump to be tested is clamped in position with the outlet position uppermost.
2. Depending upon the pump to be tested, a fully charged car battery is connected and the leads from the panel are attached to the pump.
3. The appropriate P.V.C. suction and outlet pipes provided are then connected and paraffin poured into the sump pan to a minimum depth of 2 in. to adequately cover the gauge filter at the end of the suction pipe.
4. The screwed valve is opened, the rig switched on and the pump allowed to run for one minute to stabilize the flow level where it may be read directly in the flow glass.
5. The delivery valve may then be closed to check that the pump holds at least 20 seconds between strokes.

SERVICES REQUIRED:
12 or 24 volt fully charged battery is essential for the test to be conducted correctly.

SUMMARY: The rig may be free-standing on floor or workbench, alternatively it may be fixed to a wall at a convenient height.

In practice the unit has proved to be perfectly satisfactory for testing all types of S.U. fuel pumps and will provide a useful service in the workshop.

MANUFACTURERS: V.L. Churchill & Co. Ltd., P.O. Box No. 3, London Road, Daventry, Northants.

JULY 1965
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNICAL MENUET

1
DM VU PP 1.7
1
1
1
WASHINGTON 8478

Fig No.

The rigid may be close arranged on floor of workshop, etc.

If a test rig may be placed on its own motor, so that

In operation the unit may be removed to be perfectly satisfactory

The freshness of the U.S. fuel pumps and will provide a

E. D. Gribb, D. M. Sc., P.O. Box 605, London Road,

Department, Maintenance.

O.T.
EQUIPMENT: DIESEL ENGINE TACHOMETER

MODEL: 'Electrotak'

PURPOSE: To check the revolutions per minute of diesel engines.

DESCRIPTION: This instrument is of the pressure/electric type, incorporating a pressure transducer which is inserted between the injector pump and the injector. A P.V.C. covered cable from this unit is fed back to the electrical circuit of the instrument, and with the engine running, a direct reading of r.p.m. is obtained. The four inch gauge has a two scale dial 0-50 and 0-60, operated by a rotatory switch which also illuminates the appropriate scale indicator light. The reading obtained on the gauge is multiplied by 100 on four stroke engines and 50 on two stroke engines.

This self contained unit is complete with a leather carrying handle and has a rear compartment which houses the special battery, transducer, adaptors pipes and batteries when not in use.

METHOD: With the pressure transducer inserted in the high pressure fuel line, the crocodile clip from the 'red' cable is attached to the transducer spindle and the 'black' lead attached to any convenient earth.

The speed selector switch is then turned to the range required and the engine switched on.

RECOMMENDATION BY-BAT: Allow a full minute for the instrument to warm up before adjusting the calibration control which should be done before commencement of each test series.

SUMMARY: On engines with the injectors set to operate at one pressure, it may be necessary to alter the adjustment of the transducer according to the fluctuating readings on the gauge.

By the use of this instrument the task of checking the tickover and governor speeds is converted to a one man operation and avoids the necessity to reach the engine crankshaft or fuel pump drive.

MANUFACTURER: Dunedin Engineering Co. Ltd.,
73 Mortimer Street,
London W.1.

JULY 1965
EQUIPMENT:

Wheel Balancing Accessory.

INTRODUCTION:

During demonstrations of 'On' the vehicle wheel balancing machines, we are often asked the object and dimensions of the wood block used in our Workshop.

The block was introduced to speed the wheel balancing process and to ensure greater accuracy.

TECHNIQUE:

When one end of a vehicle is jacked up for balancing the wheels 'in situ', the readings obtained can be influenced by the unbalance induced into the 'Pick-up' by the other wheel.

This is readily overcome by placing a hardwood block beneath the wheel, thus preventing it from rotating.

An advantage of using this approach is that the vehicle is kept in a horizontal plane throughout the operation and both kinetic and dynamo unbalance truly rectified.

MANUFACTURING DETAILS:

For ease of manufacture we have found that two pieces of hardwood glued and screwed together is equally satisfactory to producing this from one piece.

Beech, Oak or other suitable hardwood may be used, and the general dimensions are given overleaf.

A BMC Service suggestion to aid the wheel balancing operation.

JUNE 1965

P.T.O.
PASSENGER VEHICLE RANGE
-EXCEPT MINI MINOR-
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: Engine Turning Roller.

MODEL: '6 inch Special'.

PURPOSE: To enable the fitter to revolve the engine on Front Wheel Drive vehicles.

DESCRIPTION: This tool consists of two solid steel rollers, which are eight inches long and mounted between steel end plates. A floor holding device/carrying handle is also incorporated. The rear roller is knurled to grip the tyre and has four angular holes into which a steel bar is inserted for wheel rotation. A simple turn screw operating on the forward roller enables this to be locked.

METHOD: With the floor gripping bar placed against the front tyre, and the front roller locked, the vehicle is pushed onto the rollers. The roller lock is then released and the vehicle top gear engaged, which allows the engine to be 'inched' over by means of the bar inserted into the rear roller.

RECOMMENDATIONS BY BMC: That the handbrake is applied once the vehicle is in position.

SUMMARY: Among the particular applications of this unit is the setting of the valve rocker clearances, initial setting of the contact breaker points and rotation of the drive shafts when the couplings are released.

By the use of this set, precise control of the engine rotation is obtained, eliminating the need to rock the vehicle in gear and wear and tear on the starter motor.

MANUFACTURER: R.H. Fletcher, The Forge, West Chiltington, Pulborough, SUSSEX.
Flexible arm Clock Stand with Magnetic Base.

'Snake' Model 3224 Type 02

The unit comprises a column of steel balls inter-spaced with collars on a centre multi-stranded steel tensioner cable.

At one end of the column is fitted the Cross-Head unit to which the dial gauge indicator would be attached and at the lower end of the column is the lever operated cam tensioner assembly, which is fitted upon a 'micrometer' adjustment collar. Beneath this is the machined magnetic base.

Method:

In use, a suitable surface upon which the base should stand is selected and the button depressed to bring the magnet into operation.

With the measuring instrument attached, the column is manipulated to bring the gauge to within 1⁄8" of its required position and the cam lever operated to lock the arm in that position.

Final positioning is carried out by rotating the knurled 'micrometer' collar.

Summary:

An adjuster and locknut is fitted just beneath the Cross-Head so that should any cable stretch occur it can be readily re-adjusted.

Full flexibility of the column is achieved by the use of the short collars and steel balls and enables the unit to be used in previously inaccessible positions.

The system of locking the collar in any desired position is simple, effective and quickly carried out when compared with systems using straight or cranked steel rods and clamps.

Well finished throughout, the 'Snake' Flexible arm Clock Stand should provide a useful service not only in the vehicle workshop, but also on many machine shop operations.

Size:

Overall length from Cross Head centre to base = 12".

Other sizes available.

Manufacturers:
The Polymathic Engineering Co. Ltd., Tamworth, Staffs.

Suppliers:
Polar Hydraulics Ltd., Fazeley Road, Tamworth, Staffs.

May 1965

P.T.O.
EQUIPMENT: ENGINE LIFTER.

MODEL: Mini/1100 Transverse Engines.

PURPOSE: To aid the removal and replacement of the complete power unit assembly.

DESCRIPTION: This lifter is produced from two 3/16” thick steel plates suitably shaped and arc welded together to provide two points to raise the engine assembly.

The forward mild steel forged shackel eye enables the power unit to be tilted at the correct angle for easy removal and replacement, whilst the rear set allows the assembly to be supported during the location of the drive shafts and mounting brackets.

Shown overleaf are the essential constructional dimensions, together with a true blank of the side members. The support gussets are also produced from 3/16” steel plate and are welded in position.

The most important dimensions are those of the support studs, which are as follows:

Centre distance between rear mounting bolt holes 6” (holes 11/32” dia.)
Centre distance between rear mounting bolt holes 6.1/32” (holes 13/32” dia.)

The rear hook mounts are produced from 1¼” diameter mild steel.

RECOMMENDATIONS

BY B.M.C. Before this lifter is used it must be tested, and then inspected at six monthly intervals by a competent authority to comply with the Factory Act.

SUMMARY: This lifter can also be used to advantage on the 'In-Line' 'A' Series engine and gear box assemblies. By the correct inclination of the power unit the removal and replacement can be easily accomplished by one operator.

Further constructional details can be obtained from Service Development Department.

A B.M.C. Service suggestion which can be produced by your own personnel.
STUD EXTRACTOR.

MODEL:
880.

PURPOSE:
To remove a broken stud or set screw.

DESCRIPTION:
This set comprises ten drill guides, five straight fluted extractors, twist drills and a metal wrench packed in a flat square metal box.

METHOD:
The principle of operation is that a hole is drilled into the centre of the broken stud and the appropriate extractor is then lightly tapped into this and the assembly unscrewed with the tap wrench.

When a stud protrudes above the surrounding surface or is broken well below this, it is possible to use a drill guide to ensure the pilot hole being drilled is concentric with the original bore central line. This hole is then enlarged to accept the extractor.

RECOMMENDATIONS
BY B.M.C.
That an engineer's tap wrench is used in preference to the wrench provided, in order to obtain even pressure on all sizes of extractors.

SUMMARY:
The range of this set is between 1/4 inch and 1/2 inch diameter, and due to the small interference of the flutes they do not spread the original stud.

Although described as a complete set the extractors or extractors and drill guides are available separately (Set 882 & 881 respectively) and are a most useful item to have in any tool store in the event of a stud breakage.

SIZE:
5 in. long. 3/8 in. wide, 7/16 in. thick.

MANUFACTURER:
J.F. SYKES (ST. ANNES) LTD.
Warwick Works, Kiln House Lane, St. Annes-On-Sea, Lancs.

APRIL, 1965.
EQUIPMENT: BATTERY CHARGER.
MODEL: AD 24.
PURPOSE: To provide a garage with a means of charging several batteries at different rates at any one time.

DESCRIPTION: Housed within a rectangular metal cabinet, this unit incorporates two separate charging circuits, enabling batteries with up to a total of 72 cells to be charged.

The charging rate is clearly seen on two three inch square dual scale ammeters, and for ease of maintenance both the input and output fuses have been mounted at the front of the cabinet.

METHOD: With the batteries connected to the charger the equipment is switched on, and the rotary switches adjusted until the desired charging rate is obtained.

When initially setting the charger the 'course switch' is tuned to the approximate position, and then finally adjusted by means of the 'fine' tuning switch.

Dependent on the volume of batteries to be charged, both 6 and 12 volt batteries may be coupled together in series or series parallel providing the number of cells in each circuit does not exceed 36.

Electricity 200 – 250 volt. 50 cycle Single Phase.

SERVICES: REQUIRED: RECOMMENDATIONS

SUMMARY: This equipment should be located in a well ventilated area.

The cubical is finished in Hammered Silver Grey with Red Enamel side panels and mounted on short legs which incorporate securing bolt holes.

This Battery Charger has proved to be extremely reliable during the five years it has been installed at B.M.C. Service Ltd., and is ideal where a great many batteries of varying sizes require slow charging.

SIZE: 27 inches high x 20½ inches wide x 14 inches deep.

MANUFACTURER: Crypton Equipment Ltd., Bridgwater, Somerset.
EQUIPMENT:  TYRE SERVICE.

MODEL:  TREAD DEPTH GAUGE

PURPOSE:  To quickly measure the depth of tread on any tyre.

DESCRIPTION:  This hand tool is three and 8 inches long and will measure the tread depth when this does not exceed one inch.

The cylindrical indicator bar has dual scales and is marked in 1/32 inch steps up to one inch and also has meter markings up to 25 divisions.

METHOD:  The measuring probe is fully extended and then inserted into the tread until the shoulder rests squarely on the tyre. The marking or reading adjacent to the top of the chromium plated body is then observed, which indicates the amount of tread which remains.

A neat clip has been provided to enable the gauge to be attached to the user's top breast pocket when not required for immediate use.

SUMMARY:  This depth indicator enables accurate comparisons of tyre wear to be made and the depth has proved adequate for all car and commercial vehicle tyres.

SIZE:  Length 3\(\frac{3}{4}\)". Width 1\(\frac{1}{4}\)". Thickness \(\frac{1}{8}\)".

MANUFACTURER:  Pneumatic Components Limited,
               Eyre Street,
               SHEFFIELD.

MARCH 1965

P.T.O.

SERIAL No.  160

FILING REFERENCES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TYRE SERVICE</td>
<td>2</td>
</tr>
<tr>
<td>DISTRIBUTOR</td>
<td>1</td>
</tr>
<tr>
<td>DEALER</td>
<td>1</td>
</tr>
</tbody>
</table>
EQUIPMENT: ENGINE TUNING.

MODEL: TUT 100, (B.M.C. Specification.)

PURPOSE: To enable the basic ignition checks to be quickly performed.

DESCRIPTION & METHOD:

This tester consists of three basic units mounted on a light mobile stand.

Unit VPT 212 is a Vacuum/Pressure tester with an adjustable damping valve, and is used to check the vacuum unit. This also serves as a useful guide to the condition of the engine and carburation setting. The pressure at which the petrol is being delivered may be checked by this tester.

Unit EDT 214 'Electronic Distributor Tester' which includes an engine timing light, which is used to set the initial stroboscopic ignition setting and assess the amount of distributor ignition advance obtained.

Unit TDT 216 'Tach Dwell Tester'. This unit combines an electric tachometer and a distributor points dwell meter.

The tachometer has a two scale reading, 0-800 which is particularly useful for setting tickover idling speeds and 0-8000 r.p.m. is selected by means of a switch.

Also incorporated in this unit is a 'Points Resistance' section on the scale which indicates the electrical conductivity of the distributor points.

SUMMARY:

Each of these units has a single bolt fixing to the stand. Behind these instruments is a box section suitable for housing Data Manuals and test sheets. A further section serves as a useful store for the various adaptors and light hand tools used by the Service Mechanic.

This test set enables any of the basic tests to be performed and is a useful supplement to the main oscilloscope diagnosis equipment.

MANUFACTURER: Suntestor Limited, Rippl eside Commercial Estate, Rippl Road, BARKING, Essex.

MARCH 1965 P.T.O.
EQUIPMENT: Wheel Weight Pliers.

MODEL: 555/4.

PURPOSE: To remove or apply any corrective wheel balance weight to a road wheel assembly.

DESCRIPTION: These malleable iron pliers are conveniently shaped to make this one tool suitable for each of the operations associated with the applications of wheel weights.

METHOD: To apply a wheel weight initially, a 13/16 inch diameter chromium faced hammer head is incorporated so that when both handles are gripped this forms a convenient means of hammering the weight into position.

When it is necessary to remove a weight, this is either gripped by the jaws of the pliers or when a rim embosser is fitted, the end hook is inserted beneath the weight and levered off.

Any weight may be trimmed by the guillotine to reduce its mass, when accurate wheel balancing is performed.

A notch has been provided to enable the spring steel retaining tang to be tensioned when necessary.

Spade and taper ends are provided on the handles so that stones may be removed from the tyre tread.

SUMMARY: This tool through its many individual features allows rapid manipulation of the corrective balance weight.

SIZE: Length 9 3/4 inches Height 3 3/4 inches

SUPPLIERS: Laycock Engineering Ltd.,
Archer Road, Sheffield 8.
EQUIPMENT: Battery Service.

MODEL: Elga B.120. TOP-IT-UP.

PURPOSE: To provide a garage with a constant supply of purified water for topping up batteries.

INTRODUCTION: This equipment has been designed to provide a predetermined amount of 'purified' water by the 'Ion Exchange' process.

METHOD: Mains tap water is fed into the base of the equipment and is passed through a solenoid control valve which is connected to a time switch.

It then flows to the top of a plastic cartridge containing an intimate mix of resin compounds which dissolves the various salts and impurities found in the water.

The 'de-ionised' water as it is known, then passes through a ferrite tube at the base of the plant.


RECOMMENDATION BY B.M.C.: That the water supply is permanently connected to the machine, and that it is protected from frost.

LIMITATION: This service is only available in certain Ex. UK Countries.

SUMMARY:
1. A 6 foot length of p.v.c. 3" diameter bore tubing is supplied with the plant. Similar tubing is used internally and joined by the patent AIRTECH couplings.
2. It takes approximately 3 mins. to dispense 1 gallon of this de-ionised water. which has been approved for use in the Batteries fitted to B.M.C. vehicles, providing the manufacturers recommendations are followed.
3. Each plant is set to produce a certain amount of de-ionised water from each cartridge which is charged at a set amount, but an annual rebate is given to users of more than 310 gallons per year.

By the use of this system the inconvenience of replacing and storing carboys of Distilled water is eliminated.

SIZE: 22½" high. 10" wide. 9½" deep.

MANUFACTURER: Elga Products Ltd., Lane End, Nr. High Wycombe, BUCKS.

FEBRUARY, 1965
EQUIPMENT: Power Unit Transporter.

MODEL: Suitable for Austin/Morris Mini Saloons & Coopers, Riley Elf and Wolseley Hornet.

PURPOSE: To provide a convenient means of transporting engine and transmission units complete with suspension assemblies mounted on the vehicle's sub-frame, about the workshop.

DESCRIPTION & METHOD: Manufactured from standard steel channel iron, steel plate and solid bar material, the device is welded together as shown in the sketch overleaf.

The bracket and handle assembly is bolted to the front end of the removed sub-frame, utilising the existing fixing holes which are 26" apart.

To the other end of the sub-frame assembly are fitted the two ¾" dia. steel bars of equal length which locate the steering arm eyes and fix the wheel track in a parallel position.

The whole unit is then able to be moved about the workshop by means of the trolley handle which is 33" long, manoeuvrability being achieved by the single swivel 4" dia. castor wheel.

SUMMARY: Where the Power Unit complete with sub-frame is removed, the transporter provides a convenient means of manoeuvring the assembly about the workshop.

A B.M.C. Service suggestion which may be manufactured by your own personnel.

JANUARY, 1965
Hand Operated Embossing Tool.

TP 335.

To enable any item to be quickly identified by a permanent self adhesive label.

This hand embossing tool uses a \( \frac{1}{2} \)" wide plastic tape with a thin strip over the adhesive backing.

The white letters are \( \frac{3}{16}" \) high by \( \frac{1}{32}" \) thick, and protrude from the surface of the tape by approximately \( \frac{1}{32}" \).

The body of the machine is constructed from Aluminium Alloy pressure die castings with moulded plastic letter dies.

Each letter or figure is selected by rotating the die plate and squeezing the handles together. When the word is complete the tape is ratcheted forward by means of the large diameter wheel.

The tape is cut by means of an internal guillotine and at the same time the tape is scored providing a tab which enables the backing strip to be quickly peeled off.

There are thirteen coloured tapes from which to choose and each replacement cartridge holds 144 inches.

The machine described has a die plate which covers the complete alphabet, numerals from two to nine, together with a $E$, $\%,$ oblique stroke, plus and minus signs.

This machine has many uses within a Workshop for identifying Special Tools and parts and since the introduction of the pound sterling sign, it will have an equal appeal in the Parts Department.

**MANUFACTURER:** Dexion Limited,
Empire Way,
Wembley,
Middlesex.

January 1965.

P.T.O.
EQUIPMENT: 7" Abrasive Disc Backing Plate.

MODEL: JWP 361 'SAV-A-DISC'.

PURPOSE: Primarily designed to give a greater disc life with more safety, and greater accessibility to smaller radii during bodywork sanding operations.

DESCRIPTION: The disc is described as being manufactured of phenolic resin or fibre laminate. It is of a slightly dished scalloped design with eight raised ribs to provide strength with resilience.

The disc assembly, which has a free-wheeling hub, is designed to fit between the abrasive disc and a smaller rubber backing pad. These in turn can be fitted to most available rotary Sander/Grinding power tools, and suitable spindle locknuts are provided.

SUMMARY: In use, the backing plate has shown to have the following advantages:

1. The fibre plate being somewhat thinner than conventional backing plates provides greater flexibility enabling the disc to enter corners of smaller radii, viz. door pillar curves.

2. The air flow created by the rotation of the scalloped disc keeps the grinding dust down and away from the operator. This air cushion allows the disc to operate at a lower temperature.

3. Because the backing plate is free to revolve independently of the sanding disc there is less reaction or 'kick' transmitted to the operator, should the disc become snagged.

It can, therefore, be seen that by using this backing plate greater safety and more convenience can be achieved.

It would not be unreasonable to suggest that a greater disc life can be obtained especially in cases where unpainted surfaces only are involved.

SUPPLIERS: J. W. Pickavant & Co; Ltd., Bow Street, Birmingham.

DECEMBER 1964

P.T.O.
INSTRUMENT TEST.


PURPOSE: To establish if the Fuel Gauges, Voltage Stabilisers and Bi-metal Thermostor Semi Conductor Temperature Indicators are working correctly without removal from the vehicle.

DESCRIPTION: This tester consists of a Rotary Multi position switch, two test leads, three terminal posts and indicator gauge housed within a plywood box.

METHOD: The rotary switch is used to select the correct test circuit, before the leads from the tester are attached to the vehicle instrument circuit.

Initially a battery Voltage test is performed with this unit to establish that the system is operating at a minimum of 11 volts.

To test the Bi-metal Voltage Stabilisers it is simply a matter of switching on the ignition once the tester is in position, and if this is satisfactory a reading in the white zone of the gauge will be seen.

Fuel tank indicator units, Temperature transmitters and associated gauges are tested by placing the test unit in circuit and switching the rotary switch to the appropriate place. If the gauges then read correctly, the transmitting unit is faulty, but if the gauges read incorrectly they should be replaced.

RECOMMENDATION

BY BMC: That a battery test is made prior to an instrument test and that adequate time is allowed for the unit to reach normal temperature otherwise incorrect diagnosis can result.

LIMITATION: This instrument tester is only suitable for 12 volt systems.

SUMMARY: To make connections with the instrument terminals, rubber covered crocodile clips are provided.

This tester can save a considerable amount of time in accurately diagnosing which unit is faulty without unnecessary dismantling of components.

SIZE: Length 7¼”, Width 4½”, Height 4¾”.

MANUFACTURER: Smiths Motor Accessory Division, Service Dept., 50 Oxgate Lane, LONDON N.W.2

December 1964.

P.T.O.
EQUIPMENT: Magnetic Wing Cover.

MODEL: 'COPERCAIAMIT'.

PURPOSE: To protect a vehicle's body or paintwork from accidental damage whilst in the workshop.

DESCRIPTION: The rectangular cover measuring 47" x 27½" (120 x 70 cms.) has outer surfaces of plastic with an inner lining of EUROFLOCK. Recessed into the top edge are six small rectangular magnets which hold the cover on to the car panel.

RECOMMENDATION BY BMC: That the covers be kept away from any form of metal swarf, such as drillings and iron filings which may cling to the cover by the magnets and thus cause scratching of a painted surface.

SUMMARY:
1. Within a workshop it is essential that some protection be given to finished bodywork whilst operators are working within the engine compartment.
2. These covers are of a convenient size and not too cumbersome so that they are able to be applied to body panels other than the vehicle's wings.
3. The inner facing of the cover has a soft texture to rest against the bodywork whilst the exterior can easily be cleaned of oil or grease.
4. The method of attaching the cover by magnets is simple and instantaneous and the magnets have sufficient strength to support the cover adequately even on a vertical surface.

ENGLISH CONCESSIONAIRES: London & Auckland Trading Co., 63 Benhurst Court, Leigham Court Road, LONDON S.W.10.
EQUIPMENT: MOBILE TOOL BOXES

MODEL: MASTER TOOL TROLLEY

PURPOSE: To provide the mechanic with a mobile tool trolley and working surface.

DESCRIPTION: This master tool trolley consists of a deep rectangular metal box with a single top tray and lid which extends upwards to gain accessibility and to form the working surface.

The main tool container has an 'off centre' partition which enables the larger items to be stored and selected with ease.

The upper tray has a series of partitions which may be placed at 2" intervals and these are most suitable for the smaller hand tools and socket spanners.

A piece of serrated sheet rubber is adhered to the top of the lid which forms a useful surface upon which items may be worked or carried.

To close the assembly to form a seat, a simple catch is released upon the lid and the upper portions lowered. When in this position the tool box may be secured with an integral lock.

For movement about the workshop the unit is mounted on ball bearing rubber tyred wheels. The two 5" diameter rear ones are fixed whilst those at the front are 4" diameter and are caster mounted with a braking device incorporated on one wheel.

The vertical handle may be removed for easier storage, and the complete assembly is finished in various two-tone colour paint.

SUMMARY: This tool trolley has proved most popular with the mechanics and electricians as they are able to carry heavy tools and equipment easily around the workshop.

SIZE: Length 27½". Width 13". Height open 32", closed 16½".

MANUFACTURER: B. Draper & Son Limited,
Kingston Hall Road,
Kingston-On-Thames.

NOVEMBER, 1964.

P.T.O.
EQUIPMENT: HYDRAULIC TROLLEY JACK
MODEL: Blackhawk Two-Speed Model 603.
PURPOSE: To aid the mechanic in lifting a vehicle whilst in the process of general servicing duties.
DESCRIPTION & METHOD: Basically similar in construction to the orthodox trolley jack design, the steel chassis of this model is mounted upon a pair of fixed steel wheels at the front and a pair of swivel steel castor wheels nearer the operating handle.

The two speed action of the hydraulic lift is achieved by mounting a short foot-operated pedal, which operates in conjunction with the handle.

The control lever which opens and closes the hydraulic valve is positioned at the top of the handle, the mechanism passing down the handle length and universally jointed at the handle hinge point.

A coil spring is fitted to the handle to return it to the upright position and two coil springs to lower the saddle pad.

LIMITATIONS: Since the jack handle cannot be held firm in the upright or mid-position, manoeuvring the unloaded jack becomes awkward.

RECOMMENDATIONS BY BMC:

1. Some protection should be provided to prevent the returning handle from damaging bodywork.

2. That the maximum capacity of 2 tons be clearly marked upon the chassis to prevent overloading the jack.

SUMMARY: The provision of the foot pedal for quick lifting of the pad is a useful feature enabling some time and effort saving prior to bringing the saddle in contact with the vehicle's lifting point, thereafter the handle completes the lift. Generally the unit is well constructed and finished and should provide useful service within the workshop.


OCTOBER 1964
EQUIPMENT: DISTRIBUTOR CONTACT POINT GRINDER.

MODEL: AB

PURPOSE: To re-surface the distributor contact points.

DESCRIPTION: This model known generally as the Standard Convex Contact Grinder, will accurately re-surface the points if they have worn or are making poor electrical conductivity as described in our Service Development & Technique Bulletin No. 121.

Pedestal mounted on a cast iron base, the platforms are accurately machined to accommodate J1g Plates, upon which the contact points are mounted.

An abrasive disc is held onto the centre of a concave plate by a washer and benchhead screw. The spindle connects through this plate with a short handle to enable the disc to be revolved.

METHOD: For the Lucas sets used in our Distributors, the fixed point is mounted on the U Plate and squarely located by means of a knurled screw, whilst the moving point is slid over a close fitting spindle.

In turn, each half of the contact breaker set is pressed lightly against the disc while the handle is turned for several seconds to give a smooth convex surface.

SUMMARY:

1. The thin paper backed abrasive discs are easily replaced and available in three grades, medium, fine and superfine.

2. Life of the discs is, of course, dependant upon the use received, but we have found that between three and five contact breaker sets can be re-surfaced with the medium grade before replacement is required.

By the use of this tool inaccuracies in hand re-finishing of the Contact Point has been eliminated and good electrical conductivity obtained.

MANUFACTURER: Truepoint Motor Accessories,
106 Lower Ashley Road,
BRISTOL 2.

OCTOBER 1964
EQUIPMENT: I.P.T.O. CLUTCH REMOVAL SLING

MODEL: To suit Model 342 and 460 Universal Tractors

PURPOSE: To aid the awkward task of removal and replacement of the double clutch from the tractor.

INTRODUCTION: This sling is illustrated in several editions of the Workshop Manual and we hope that by giving these details of its construction, you may like to have this sling made to assist in this operation.

DESCRIPTION: Basically, this sling consists of two unequal lengths wire rope loops made from ½ inch diameter 6 x 19 construction, 110/120 T.W.I., with a breaking strain of 2.3 tons.

Each of these loops are attached to a 2½ in. 12/diameter x ½ diameter ring, M.S. Forging, which has a safe working load of 1½ cwt., at 30 deg.

The completed overall length of the forward sling is 5½ ins. and the rear one is 2½ ins. Each end of the wire rope is formed over an ½" ordinary thimble and secured by the 'Talusit' splice process.

METHOD: By placing the large loop around the centre of the cast iron clutch casing and the small loop around the 'withdrawl carrier sleeve', the centre of gravity will be achieved to enable the assembly to be lifted in or out of the Tractor frame.

RECOMMENDATIONS BY BMC: We must emphasise that before the sling is used, it must be tested by the manufacturers and inspected at six-monthly intervals by a competent authority, in order to comply with the Factory Act.

SUMMARY: This item is not stocked by any wire rope manufacturer, but if difficulty is experienced in having one made then please contact Service Development Department who will advise accordingly.

A BMC Service Limited suggestion to aid Tractor Servicing.
EQUIPMENT: Retractable Reel - Electrical Cable.

MODEL: Marcaddy Cable Reeling Unit (Standard Model).

PURPOSE: To provide a portable power lead for the operation of electric tools and mobile equipment in the workshop.

DESCRIPTION: The Marcaddy cable reeling unit consists of a well designed spring loaded reel and slip ring unit mounted on a steel frame and housed in a fibre glass moulding. The moulding is fitted with a carrying handle, support cradle and outlet socket.

With the free end of the cable plugged into a suitable wall power point the reel is carried to the place of work and the cable unreels without strain on the plug. On completion the reel is returned to the wall power point, the cable is automatically rewound, without kinking, by the constant tension spring mechanism.

A movable rubber ball acts as a stop on the free end of the cable and a small bracket is provided on the support cradle so that the cable may be locked when extended.

ELECTRICAL RATING: The Marcaddy is available in the following:

- 5 amp cable lengths 50 or 100 feet.
- 13 amp cable lengths 30 or 60 feet.

The maximum loading is based on intermittent loading.

DIMENSIONS: 7 inch wide 14 1/2 inch high over handle.
12 inch diameter.

WEIGHT: 20 lbs. approximately.

RECOMMENDATIONS BY BMC: Have resulted in a drain hole being incorporated in the unit.

SUMMARY: The Marcaddy finished in a neat grey moulding with a black rib on the sides will ensure the tidy storage of electric cables in the workshop and eliminate the hazards of trailing leads.


JULY 1964
Equipment: Rubber lubricant and cleaner.

Model: 'Ru-Glyde'

Purpose: To clean and lubricate rubber components and to clean the upholstery.

Description: The Ru-Glyde service kit comprises a neat moulded black canister which has a 128 fluid ounce capacity.

To the front of the canister a cotton mop is housed vertically, and an aluminum alloy lid covers the rear compartment in which the wooden handled cleaning brush is stored.

Method: The component to be lubricated is given a liberal application of the Ru-Glyde fluid, by dipping the cotton mop into the forward compartment and rubbing it over the area concerned.

Although almost transparent, this fluid when applied to rubber leaves a smear, but this dries into the surface and gives a matt black appearance.

The wooden handled brush is intended for thoroughly cleaning the rubber prior to applying the lubrication fluid.

Recommendations by BMC:

Due to the composition of this material it is advisable to wear rubber gloves to prevent it coming in contact with the skin.

By the use of the lubricant when removing or refitting tyres the effort is considerably reduced, together with the risk of damage to the bead sealing edge, and due to its make-up, it gives a new appearance which does not peel or crack.

Summary:

This fluid is most useful for soaking rubber components as an anti-squeak treatment, and has been used equally successfully for cleaning the interior upholstery.

Size: 8½" long x 4½" wide x 7½" high.

Manufacturer: American Grease Stick Co., Muskegon Michigan U.S.A.

EQUIPMENT: Industrial Paper Wipers.

TYPE: 'KIMWIPES'.

PURPOSE: To provide a cleaning service, for general purpose wiping as found in the service station.

DESCRIPTION: Of a crepe texture, the disposable wipers are designed for light and medium wiping applications, removing dust, dirt, oils and petroleum based solvents, without depositing fluff or linting.

Available in 100 - sheet cartons, each paper wiper measures 10" x 17\(\frac{\text{3}}{\text{4}}\)"., or in roll form 100 2-ply sheets to a roll, 20" wide, perforated at approximately 18" intervals.

A plastic dispenser, suitable for wall fixing, is available for the rolls.

SUMMARY: The larger 2-ply KIMWIPE described, dispensed from the roll has good absorbent qualities and is particularly useful for wiping the wetter surfaces, whilst maintaining a reasonable degree of strength.

Being easily disposable when soiled, the use of a fresh wiper eliminates any danger from scratching painted surfaces.

Both types of paper wiper have given a useful service and can cater with the majority of wiping operations found in a garage.

MANUFACTURERS: Kimberly-Clark Limited, Industrial Division, Larkfield, Maidstone, Kent.

JUNE 1964

(Not Illustrated)
EQUIPMENT:  HAND TOOLS - SCREWDRIVER

MODEL:  'QUICK-WEDGE' 2356

PURPOSE:  To assist in the removal and replacement of straight slotted screws, including the water pump lubrication plug, during the servicing of motor vehicles.

DESCRIPTION:  Into the handle of this special screwdriver are moulded two half round parallel shafts. These shafts flare outwards towards the blade and are machined at an angle which keeps the hollow ground blades parallel to each other.

A tubular metal sleeve with an enlarged moulded finger grip slides over the shafts to bring the blades together, which increases their effective thickness.

This action grips the screw firmly in line with the screwdriver shank enabling it to be positioned accordingly. Pressure on the screw is released by moving the sleeve back towards the handle.

RECOMMENDATIONS BY BMC:  To slacken or finally tighten large screws we would suggest that a conventional screwdriver is used to prevent excess wear or distortion of the blades.

SUMMARY:  These screwdrivers are obtainable in various lengths from 5 - 18 inches and blade diameters of 1/4 - 1/2 inch, but the one found most suitable for use with the water pump lubrication screw has a blade length of six inches.

This screwdriver has been most useful in reaching screws located in confined areas, as it is possible to 'lock' the blades in position and prevent it slipping during use.

MANUFACTURER:  Kidman Company, 233 South 5th West Street, Salt Lake City, Utah, U.S.A.


MAY 1964
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: UNDER VEHICLE CREEPER

MODEL: 'Kenmar' Undercar Trolley

PURPOSE: To support the backs of mechanics and provide ease of movement when working under vehicles.

DESCRIPTION: Of fibreglass construction, the trolley is moulded in such a manner as to provide sufficient support for the backs of operators of varying stature.

Four ball bearing rotated castor wheels are firmly set into the resin in positions so that their tops are above the level of the working platform.

Recessed into the side of the trolley are shallow trays for the temporary storage of the smaller hand tools such as spanners, etc.

The highest point of the chassis is the shaped head or neck rest designed to alleviate strain.

During exit and entry to restricted clearances the operator must move his head to one side of this rest.

LIMITATIONS: Designed to operate as close to the ground as possible, the floor must be reasonably level and smooth for the creeper to be used to its best advantage.

SUMMARY: Finished in self-coloured red, the 'working' surface of the 'KENMAR' is smooth and, therefore, easily cleaned.

The moulded shaping of the trolley contributes greatly to its overall strength so that it will withstand fairly rough treatment.

The latest improvement to be incorporated is the setting of the castor wheel top plates deeper into the fibre glass material to prevent them becoming detached.

SIZE: Overall Length 38" Overall Width 27" Highest Point 63" (Headrest).


MAY 1964

P.T.O.
EQUIPMENT: FUEL CONSUMPTION METER
MODEL: M.G.A. 'Petrometa' Mark II 12 Volt D.C.
PURPOSE: For the measurement of fuel flow in petrol or diesel engined vehicles under actual running conditions.
DESCRIPTION & METHOD: Basically, the Kit comprises a Meter, a Recorder, two flexible fuel pipes, various screwed adaptors and electrical connections.

The Meter is normally fitted within the engine compartment of the vehicle to be tested and is connected into the fuel line between the pump and the carburettor, or in the case of oil engines between the lift pump and injector pump.

The Recorder unit is carried within the vehicle and placed in a convenient position for the operator. When connected and in operation the magnetic counter registers each stroke of the Meter slide valve, a measure of 1/2,000th gallon. It is used in conjunction with the vehicle's odometer, or over a measured distance, thus the Recorder reading may be read as miles per gallon by reference to a conversion table, also supplied.

SERVICES REQUIRED: 6, 12 or 24 Volt D.C.
SUMMARY: Designed specifically as a test instrument, it is not intended to install the Petrometa permanently in the vehicle, there are, therefore, fitted to the Meter unit, two lugs which allow for quick fixing.

The Petrometa has given satisfactory and reliable results during tests and has the capacity to be used on all types of BMC vehicles.

The equipment is simple in operation and a distance of one mile is sufficient to obtain an accurate reading. Tests may be carried out in any running conditions and the audible operation of the counter is useful in indicating any changes in the fuel-flow rate.

MANUFACTURER: M.G.A. Industries Ltd., Forest Road, Loughton, Essex.

MAY 1964
BMC SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: BODYWORK PANEL BEATING TOOL SET

MODEL: Master Body Set No. 580.

PURPOSE: To provide the Panel Beater with a basic set of tools which would be sufficient to cover the majority of repair work.

DESCRIPTION: The basic tools included in this set are a selection of five panel dollys, two hammers, two spoons, a wooden mallet, a flange setting tool and an adjustable body file holder.

The dollys have been selected to give a range of curved and flat surfaces and through the wide choice of shapes, most curvatures can be accommodated.

The working surfaces of the spoons are finished in a highly polished chromium condition whilst those of the dollys and hammers are smooth ground. The remaining portions are smooth and painted a bright red colour.

This set may be supplied upon a tool outlined display board or as illustrated overleaf in a strong metal tool box with a detachable top tray.

SUMMARY: This 'master body' set will serve as the basis upon which any Panel Beater can become established.

SIZE: Tool Box 1' 7" long, 7½" wide, 7½" high. Display Board 2' 6" x 1' 6"

MANUFACTURER: J.F. Sykes (St. Annes) Ltd.,
St. Leonards Road,
St. Annes-On-Sea,
Lancs.

MAY 1964
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: HOT BEVERAGE VENDING MACHINE

MODEL: JUNIOR SIX - TEA/COFFEE/CHOCOLATE

PURPOSE: To supply a selection of hot tea, coffee or whipped chocolate at any time of the day or night.

DESCRIPTION: This neatly designed unit is most compact and has a 260 cup capacity. The selections available are, tea, tea with sugar, black coffee with sugar, white coffee, white coffee with sugar and whipped chocolate.

Powdered ingredients are used to make the beverages, and when selected they are mixed prior to being placed in the delivery tube. A new feature incorporated in this machine is a separate mixing chamber to 'whip' the instant chocolate mixture and this ensures a perfectly mixed drink.

Coin selectors to the operators requirements may be fitted.

OPERATION: The user simply inserts the appropriate coin and presses the drink selector operating switch. A disposable cup is then passed into the delivery station and the ingredients are deposited in a similar manner to that described in our Service Development & Technique Bulletin No. 79.

SERVICES REQUIRED: Mains Drinking Water. Electricity to suit requirements.

SUMMARY:
1. The door opens in its own width enabling the unit to be placed in a restricted area.
2. General maintenance required is the daily cleaning of the mixing bowl and delivery pipes, which are quickly detachable for this purpose.
3. In some installations it may be felt that soup would be preferable to one of the beverages and this can be specified.

This reasonably priced new machine will have a particular appeal to the Garage, Workshop, Stores Area and Showrooms, in providing an 'ever open' hot drink service.

SIZE: HEIGHT 54"  WIDTH 24"  DEPTH 16"

MANUFACTURER: Fisher and Ludow Limited, (Vending Division), Bordesley Works, Clyde Street, Birmingham 12.

APRIL 1964
EQUIPMENT: BRAKE RE-LINING TOOL

MODEL: 'Auto-Rivet' JWP 202

PURPOSE: To hold the brake lining, shoe and rivet together during the brake re-lining process.

DESCRIPTION: The two major components of this tool are the Anvil and Spreader Block, these locate the rivet, brake lining and shoe in position whilst the rivet is formed to retain the lining upon the shoe.

As shown in the illustration overleaf, this tool is intended to be used in conjunction with a machine vice, and a two pound hammer to facilitate the riveting process.

Of pressed steel construction the upper arm is bolted to the anchor strut, but is adjustable to accommodate various thicknesses of brake lining.

The two arms are held together by a threaded bolt which adjusts the tension by means of the wing nut.

METHOD: The components are located over the anvil and once the correct tension is applied the assembly is finally clamped in position by the cam of the retaining handle.

SUMMARY: This tool is cyanide hardened throughout and has a bright self-colour finish to prevent corrosion during use.

To accommodate alternative rivet sizes, two interchangeable anvil blocks are supplied.

Through the use of this simple tool the work involved in replacing the brake lining is greatly simplified and the time reduced accordingly.

SIZE: Length - 10" Width - 6" Thickness - 1/4"

MANUFACTURER: J.W. Pickavant & Co. Ltd., Bow Street, Birmingham.

SUPPLIED THROUGH: Usual British Trade Factors.

APRIL 1964
EQUIPMENT:  MOTOR VEHICLE ELECTRICAL TEST EQUIPMENT

MODEL:  Hydrolek BXC 40 Battery and Regulator Tester.

PURPOSE:  To enable the condition of a battery to be checked without syphoning the electrolyte.

DESCRIPTION:  The Hydrolek consists of a sensitive meter in a reinforced nylon case, connected by a 3 ft. length of cable to a handle fitted with a pair of adjustable test prods. When not in use the prods may be stowed in clips on the back of the meter case to protect them from damage.

The meter, which measures from 1.88 to 2.58 volts is calibrated on two scales, the upper marked 0 - 40 divisions and 25, 50, 75, and 100%, indicating the state of charge of the battery and the lower scale has five coloured bars indicating the function of the charging system.

METHOD:  Before checking a vehicle battery with the Hydrolek it is necessary to apply a discharge load for two minutes through the headlamps, if any charge has been given to the battery within the previous 30 minutes. The test prods are then applied to each cell in turn and the readings obtained indicate the general condition of the battery, whilst variation in readings show faulty cells.

Providing the battery is shown to be in good condition the Hydrolek may also be used to check the vehicle charging system by connecting the test prods to one of the centre cells and running the engine at 1,200 r.p.m. for a few minutes to stabilise the system. An indication of charging rate is shown on the colour bands of the Hydrolek lower scale, but the instrument must not be used to adjust regulators.

LIMITATIONS:
1. When used on 'Linkless' batteries it is necessary to drill the battery top to gain access to the cell bars.
2. Batteries which have been rapid charged must stand for 30 minutes before test.

SUMMARY:  The Hydrolek enables batteries to be checked even though there is insufficient electrolyte for the normal hydrometer test.

This instrument has proved very useful when checking vehicles on the 'Passport to Service' Voucher Scheme.

MANUFACTURERS:  Crypton Equipment Limited, Bridgewater, Somerset.

SERIAL No. 138
FILING REFERENCES
BATTERY TEST 2
DISTRIBUTOR 1
DEALER 1
TITLE: TYRE PRESSURE

As an aid to ensure that tyres are inflated to the correct pressures, for Wheel Alignment and 'Passport to Service' checks, we have compiled the following list.

<table>
<thead>
<tr>
<th></th>
<th>NORMAL</th>
<th></th>
<th>FULLY LOADED</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FRONT</td>
<td>REAR</td>
<td>FRONT</td>
<td>REAR</td>
</tr>
<tr>
<td>Austin A 60 Cambridge - Petrol</td>
<td>23</td>
<td>25</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td>Austin A 60 Cambridge - Diesel</td>
<td>23</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austin Traveller,</td>
<td>20</td>
<td>24</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td>Oxford (Series VI) Saloon - Petrol</td>
<td>23</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxford (Series VI) Saloon - Diesel</td>
<td>23</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxford Traveller,</td>
<td>20</td>
<td>24</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td>MG Magnette (Mark IV),</td>
<td>23</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGB</td>
<td>18</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riley 4/Seventy-Two</td>
<td>23</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riley One Point Five</td>
<td>24</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wolseley 1500</td>
<td>24</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wolseley 16/60</td>
<td>23</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Half Ton Van/Truck</td>
<td>24</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Princess 3-litre (Mark II)</td>
<td>26</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austin A/110</td>
<td>26</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austin Healey 3000 (Mark III)</td>
<td>20</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wolseley 6/110</td>
<td>26</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Princess 4-litre</td>
<td>26</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austin A 40 (Mark II) Saloon</td>
<td>20</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austin A40 (Mark II) Countryman</td>
<td>22</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austin Healey Sprite</td>
<td>18</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morris Minor 1000 Saloon</td>
<td>22</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morris Minor 1000 Traveller</td>
<td>22</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MG Midget II</td>
<td>18</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Cwt. Van</td>
<td>24</td>
<td>28</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>Mini Models,</td>
<td></td>
<td></td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>1100 Models,</td>
<td></td>
<td></td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Mini Traveller</td>
<td></td>
<td></td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Mini Van</td>
<td></td>
<td></td>
<td>24</td>
<td>28</td>
</tr>
</tbody>
</table>

APRIL 1964
EQUIPMENT: WHEEL BALANCING MACHINE.

MODEL: Heavy Commercial Vehicle.

PURPOSE: To correct any Kinetic and Dynamic unbalance which may exist in the road wheel assembly while it is on the vehicle.

INTRODUCTION: This machine is the Commercial Vehicle Counterpart of the motor car model described in our Service Development & Technique Bulletin Number 34.

In operation both machines are similar, whilst the control cabinet and electrical pick-up are identical although a longer pick-up extension shaft is supplied.

DESCRIPTION: Two moulded rubber wheels aid the mobility of the control cabinet, which houses the stroboscopic lamp, unbalance motor, spare weights, lamp and motor control switches.

The Pick-Up is adjustable for height and has 1/2 an inch of Probe movement.

The 4 Horse Power driving motor is 400 - 440 volt 3 phase unit which has an 11" diameter, 2 1/2" wide pulley wheel. Two 2 inch diameter wheels are placed at the forward end of the base whilst a rubber 'foot' supports the end and prevents movement. The tubular handle is used to manoeuvre the unit in position and incorporates the electric motor operating switch.

SERVICES REQUIRED:
200 - 250 volt A.C. for Pick-Up and cabinet.
400 - 440 volt 3 phase for Commercial vehicle driving motor.

RECOMMENDATIONS BY BMC: That this unit is only used on the heavier road wheels as it is not really suitable or economic to use it on the lighter motor car wheels.

SUMMARY: The Commercial Driving Motor is available separately to users of the motor car model.

This Commercial Wheel Balancer saves time in removing the assembly from the vehicle and ensures that any vibration induced as a result of tyre, wheel or hub unbalance is eliminated throughout the vehicle speed range.

MANUFACTURER: Repco Limited, 59 St. James Street, London S.W.1

MARCH 1964
EQUIPMENT: Motor Vehicle Electrical Test

MODEL: 'CLAAMETER' B 20 and B 21

PURPOSE: To test the current flowing in the Dynamo (Model B20) and Starter Cables (Model B 21)

DESCRIPTION: These two instruments are basically similar in shape, construction, and use, although they may be readily identified since they are finished in red and yellow unbreakable Polypropylene.

The meter intended for checking the charging circuit is coloured red and indicates between 40 - 0 - 40 amperes the current flowing in the Dynamo or Battery Cables.

The Starter Current test meter is yellow with graduations of 500 - 0 - 500 amperes, and is used to check the current taken when the starter motor is operated,

METHOD: To use either of the meters it is only necessary to place the spring loaded clamp over the cable and observe the readings, on operating the circuit,

No indication is given on the instrument of a charge or discharge, as this is dependant on the positioning of the meter.

LIMITATION: When in use these instruments should be kept away from the dynamo, starter, or other electric motor as these can influence the results.

SUMMARY: Each instrument is neat in appearance and has distinct graduations on a 2" wide scale, and comes complete in a solid leather case.

The main advantage of this induction amperometer is that it is unnecessary to break into any electrical joint.

These 'clamasters' are a useful, quick guide in ascertaining the current flowing in the Dynamo, or starter circuit and through their robust construction are a valuable asset in a Motor Vehicle Repair Depot.

MANUFACTURER: Crypton Equipment Limited,
Bridgwater,
Somerset.
EQUIPMENT: PNEUMATIC CHISEL.
MODEL: Zip Gun Set CP 714 F-14
PURPOSE: To enable the operator to rapidly cut sheet metal work, rivets and bolts.

DESCRIPTION: The Zip Gun Set consists of a pneumatic chisel, retainer springs, and six chisels in a metal case. The Zip Gun is fitted with a multiturn air regulator in addition to the trigger, giving smooth control of the cutting action.

METHOD: For accurate cutting of panels, the two edged panel cutter is held firmly against the metal and with the trigger depressed, the regulator slowly opened until the panel is pierced; the cutter may then be readily guided with the power controlled to suit the work. When bolt shearing or other heavier work, full power may be used immediately.

SERVICES REQUIRED: Compressed Air 120 lb/in² maximum.
DIMENSIONS: Zip Gun only 7½” long.
WEIGHT: Zip Gun only 3½ lbs.
SUMMARY: 1. The use of the Zip Gun will enable the operator to rapidly break spot welds or cut out damaged body work on motor vehicles.

2. A wide range of additional tools are available including a flanging tool, smoothing hammers, bushing mandrels, bushing splitter and piercing punches.

The Zip Gun is well finished with a polished aluminium handle and the air regulator enables the tool power to be adjusted to suit the work in hand.

MANUFACTURERS: Consolidated Pneumatic Tool Co. Ltd., Automotive Division, 232 Daves Road, LONDON, SW 6.
EQUIPMENT: Lubrication Equipment.

MODEL: 'Airspeed' Oil Ejector.

PURPOSE: A Mobile means for the collection and disposal of waste oil drained from motor vehicles.

DESCRIPTION: The equipment comprises a 16" dia., welded heavy gauge steel cylinder of 18 gallons capacity mounted upon four castor wheels.

A 12½" dia. drain bowl is mounted above the oil container and is adjustable in height from 3 ft. 7 ins. to 5 ft. 6 ins., with a clamping device to hold the bowl at any height between these limits.

Towards the top of the oil container is fitted a circular sight glass to indicate when the unit is nearly full.

The Ejector is emptied by connection to an air line and closure of the air valve. The contents are thereby transferred, via the outlet hose, screwed into the drain bowl, to the appropriate receptacle.

SERVICES REQUIRED: Compressed Air 10 - 200 lb/ in.²

SUMMARY: Incorporated within the unit is a safety device to limit the air input to 10 lbs. 1b/in² and this pressure is sufficient to dispose of the waste oil to remote storage tanks up to 200 ft. distant and 10 ft. high.

The small splash guard fitted to the drain bowl is a useful feature enabling the drainer to remain in one position throughout the draining period.

Of neat appearance and well finished, the drainer performs a useful function in maintaining cleanliness of lubrication bays whether lift, pit or sunken workshops are used.

MANUFACTURER: Laycock Engineering Limited,
Archer Road,
Millhouses,
SHEFFIELD 8.

MARCH 1964
EQUIPMENT: ELECTRICIANS TOOLS

MODEL: 'Spirap' Spiral Plastic Tubing

PURPOSE: To enable the vehicle electrician to form additional wiring on a motor vehicle into a neat harness.

DESCRIPTION: Consisting of a plastic strip spirally formed into a tube, the Spirap is applied to a number of wires by inserting one end in between the wires and wrapping the Spirap round the wires, the end again being inserted in the cable form. The Spirap trying to regain its original shape contracts and grips the wires.

A simple tool, manufactured from fibre, is supplied to facilitate the application of the Spirap although short lengths can easily be applied by hand.

The Spirap may be applied close wound or spaced to suit the application in hand; cables are easily led into or out of the formed harness at any point and 'T' junctions can be neatly made.

DIMENSIONS: Manufactured in nominal sizes: 1/8, 1/4, 1/2, in outside diameter.

SUMMARY: Whilst Spirap is available in a wide range of sizes and types of plastic, the 1/2 inch diameter will bind cable forms from 3/16 to 2 inch diameter and the 'OUTDOOR BLACK' Polyethylene Grade Covers most vehicle applications.

The use of Spirap enables the electrician to form extra wiring installed for lamps and other accessories into a neat harness. Spirap may also be used to protect hoses and bowden controls against abrasion and rattle.

MANUFACTURER: Aircraft-Marine Products (GB) Ltd.,
Amplo House,
87 - 89 Saffron Hill,
LONDON, E C 1.

FEBRUARY 1964
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

FORECOURT SERVICE

'Man-Air 60' Air Gauge with Balanced Pressure Unit

An effective means of dispensing air for the inflation of two tyres at once giving equal pressure in each tyre.

DESCRIPTION & METHOD:

The gauge which is designed to be wall mounted has a 9 inch diameter face calibrated 0-110 lb/ins. 2 in 1 lb. graduations. Its face is inclined slightly forwards for ease of viewing and illuminated for use after dark.

The standard 18 ft. length of air hose supplied is fitted with the Hand Control Unit which incorporates the inflate and deflate controls.

The balanced Pressure Unit comprises two hoses which connect to the Hand Control. One hose is fitted with a 'clip-on' type connector and the other with a push-on type chuck.

To operate, the Connector is clipped onto a tyre valve, thus registering its pressure on the wall gauge.

With the Connector still in position, the Chuck is then pushed onto the other type valve and hand held. This has the immediate effect of balancing the pressures in the two tyres simultaneously registering their pressure on the gauge.

To increase or decrease the pressures in both tyres it is only necessary to operate the inflator lever or deflator button on the Hand Control.

SERVICES REQUIRED:

Compressed Air Supply up to 200 lb/ins. 2 Maximum.

SUMMARY:

A small filter gauge is fitted at the base of the unit between the air supply and the gauge, also a wall hook is supplied for the storage of the air hose when not in use.

The Wall Gauge is sufficiently large and clearly marked to be read without difficulty.

The balanced Pressure Unit is a simple yet sure method of obtaining equal pressures in two tyres in one operation.

INSTALLATION:

Screws are supplied to affix the Wall Gauge and hose hook, Connection must then be made to the air and electricity supply.

MANUFACTURER:
Pneumatic Components Ltd.,
Eyre Street,
Sheffield 1.

FEBRUARY 1964
EQUIPMENT: HYDRAULIC BRAKE SERVICING UNIT

MODEL: Brake Bleeder JWP 354

PURPOSE: To enable the hydraulic brake and clutch systems of a vehicle to be bled by one operator.

DESCRIPTION: The 'Brake Bleeder' consists of a steel syringe fitted with a transparent hose for attachment to the reservoir cap by a knurled union. The spring loaded piston is fitted with an 'O' ring seal and is connected to the pistol grip handle by means of a square rod machined at 3/8 inch intervals, to form a locking device.

The 'Brake Bleeder' is filled by inserting the hose into a container of hydraulic fluid, pulling back and rotating the handle an eighth of a turn to lock it, a knurled section on the syringe barrel forming a convenient hand grip. The Bleeder is then attached to the vehicle brake/clutch fluid reservoir by means of the appropriate adaptor cap and the handle unlocked, pressurising the system to approximately 20 lb. per sq. inch. The system is now bled without operating the brake pedal.

On completion of this operation the handle is pulled back two notches and locked before removing the Brake Bleeder. This operation takes the pressure off the system and leaves the fluid level approximately 3/8 inch below the filler, which may be topped up if necessary.

DIMENSIONS: Overall length - 2 ft. 5 ins.
Caps supplied - 1, 1 1/2, 2 1/2 ins. internal thread
1 1/2 ins. external thread

SUMMARY: This well designed and finished tool, complete with four adaptor caps and a retaining clamp for the largest cap is supplied with a chromium plated rack for wall mounting.

The 'Brake Bleeder' has sufficient capacity to bleed most cars and commercial vehicle brake or clutch systems and enables one operator to carry out this operation speedily and efficiently.
EQUIPMENT: Four-Post Platform Electric Vehicle Lift.

MODEL: COROLIFT MARK II.

PURPOSE: To elevate Cars and Light Commercial vehicles up to 3 ton capacity to a height of 5 ft. 6 ins.

DESCRIPTION: Of conventional appearance the two platforms are positioned between four 5' 10" x 3/16" steel columns which house the square-threaded screws upon which the chain-driven nuts run when moving the platforms.

A 3 h.p. electric motor is affixed to the external extremity of one of the platforms adjacent to a column upon which is fitted the start/stop control. Limit switches stop the motor at the extent of travel in either direction, but the lift may be halted in any desired intermediate position.

There is a 3 inch ground clearance with the platforms in the fully lowered position preventing accidental injury to personnel. As an additional safety feature a cut-off switch stops the lift being lowered if encountering any obstruction.

SERVICES REQUIRED: Single or Three phase voltages to suit requirements.

SUMMARY: In standard specification the COROLIFT caters for the BMC range of cars and light commercial vehicles, however, in instances where greater width is required, the lift can be obtained with an extra 7 inches between the columns.

The raised height of the platform has recently been increased to 5' 6" to give additional working clearance.

Due to its straightforward construction the lift may be easily cleaned, and gives good accessibility to the underside of the vehicle.

INSTALLATION: Twelve (12) floor bolts and connection to power supply.

MANUFACTURER: Laycock Engineering Limited,
Archer Road,
Millhouses,
Sheffield 8.
EQUIPMENT: GENERAL PURPOSE CARRIER

MODEL: M.P. CARRIER

PURPOSE: To enable awkward loads to be easily moved about the workshop.

DESCRIPTION: Welded to a tubular framework are two lugs, which support a rectangular sheet metal base.

Two 8 inch diameter rubber tyred wheels are supported by a spindle through a 'U' shaped metal strap welded to the framework.

A 33\% inch long tubular handle with a rubber moulded grip is welded centrally to the loop of the framework.

The metal base is formed from 18 SWG steel and has side flanges 2 inches high to prevent the load moving sideways.

METHOD: The components to be carried are loaded to place the weight equally about the pivot point.

The handle is lifted which then pivots the framework to raise the platform clear of the ground.

SUMMARY: For ease of movement the maximum weight which should be carried by this carrier is 150 pounds.

The platform is of sufficient size to enable items such as large vehicle batteries or two 5 gallon oil drums and vehicle components to be readily transported.

Maximum ground clearance is 5 inches which is generally enough for use over slight inclines and gratings found in motor vehicle workshops.

SIZE: Platform length 25\% inches, Width 16\% inches, Height to loop 24 inches.

MANUFACTURER: Truepoint Motor Accessories Limited, 106, Lower Ashley Road, Bristol 2.
EQUIPMENT: VEHICLE STANDS

MODEL: Mini Props

PURPOSE: To raise and support a Mini Vehicle in a wheel free condition.

DESCRIPTION: A set of Mini props prefabricated from angle iron consists of two adaptor beams and two pairs of support legs. The adaptor beams are designed to locate on the vehicle sub-frames and are fitted with a 1/2 inch diameter spigot to fit a suitable trolley jack.

METHOD: The adaptor beam is placed on the trolley jack and the front of vehicle raised approximately 20 inches enabling the support legs to be attached and secured by the locking pins. The jack is then lowered and the operation repeated at the rear of the vehicle.

To lower the procedure is reversed, the rear of the vehicle is lowered first to prevent fouling the number plate.

RECOMMENDATIONS BY BMC: Have resulted in the safety locking pins being incorporated.

DIMENSIONS: Height 18 inches.

SUMMARY: The Mini props enable a vehicle to be rapidly raised to a wheel free condition with accessibility under the vehicle. In addition, the adaptor beam, locating on the sub-frame, has proved most useful for normal jacking purposes, especially at the front of vehicles.

MANUFACTURER: Epcor Ltd.,
Star Works,
Skinner Lane,
LEEDS, 7.
EQUIPMENT: ENGINE TUNING
MODEL: 'Sun' Model STUT.300 (Five Unit)
PURPOSE: To provide the mechanic with a rapid means of testing and tuning engines.
DESCRIPTION: The STUT.300, finished in red and blue, consists of the Sun-Scope unit fitted with a 7-inch tube calibrated 0-30 kV, and four separate testers mounted on a mobile cubicle with storage space for leads and accessories. The testers, fitted with 4-inch meters, are a Tach-Dwell unit with two ranges 0-800 and 0-8000 r.p.m., an Ignition Advance Meter and Timing Light, a Vacuum/Pressure Gauge with adjustable damping, and an Exhaust Gas Analyser with built-in fan and external cooling condenser thus making the instrument suitable for prolonged tests.
All the 'Scope' controls are available to the operator and the wave-forms may be expanded both vertically and horizontally for more detailed examination. In addition, wave-forms may be compared for rapid identification of a faulty cylinder and also the coil output voltage may be checked at cranking speed.
The STUT.300 requires five electrical connections to the engine and tubes to the inlet manifold and exhaust pipe, 115 or 230 volts AC.

DIMENSIONS:
24 inch wide - 21 inch deep - 64 inch high

SUMMARY:
1. Normally, ignition secondary patterns are displayed and it is necessary to change pick-up connections to overlap traces or display primary patterns,
2. Additional testers may be incorporated in the STUT.300.
The STUT.300 is well finished and will enable the mechanic to rapidly diagnose engine faults.

MANUFACTURER:
Suntester Limited,
1, Rippleside Commercial Estate,
Ripple Road,
BARKING,
Essex.

JANUARY 1964

P.T.O.
EQUIPMENT: POWER TOOLS - PNEUMATIC

MODEL: OOC.2J Angle Sander

PURPOSE: To minimise operator fatigue on sanding down operations in the body repair sections of a Workshop.

DESCRIPTION: A small multi-vane motor drives, through two planet gears, a bevel pinion and gear, the final drive emerging at right angles to the motor housing. Ball and needle roller bearings are used throughout.

The motor housing incorporates the throttle control button, air exhaust deflector, wire suspension loop and various grease and oil chamber plugs.

An angle attachment and gear case is affixed to the motor housing and an adjustable handle, which can be clamped in any desired position, is also fitted.

RECOMMENDATIONS: For this type of vane air motor it is recommended that an air line lubricator be used.

SERVICES REQUIRED: Compressed air at 80 - 100 p.p.s.i. (5.6 to 7.0 kg/sq.cm.)

SUMMARY: By using a small air motor the overall size and weight of the sander has been reduced hence there is less fatigue for the operator and the ability to adjust the speed is a useful factor on certain applications.

The sander is well finished and strong enough to withstand rough usage.

SPECIFICATION: Free Speed at 90 p.p.s.i. (6.33 kg/sq. cm.) = 3,000 r.p.m.

Weight = 4½ lbs. (2.04 kg.)

Max. allowable Sanding Head Dia. = 6 ins. (152 mm.)

Side to Centre Distance = 5½ ins., (22 mm.)

Overall Length excluding disc pad = 11½ ins.

Motor Housing = 2½ ins., diameter.


JANUARY 1964
EQUIPMENT: Arc Welder.

MODEL: Mins 180.

PURPOSE: To carry out Arc Welding Repairs.

DESCRIPTION: The Portable A C Welder, in a steel case is mounted on two 8 inch wheels and fitted with a handle for ease of movement around the workshop.

Two terminals on the front panel enable the operator to select the high or low voltage output of either 85 or 55 volts. The output current of the welder is adjusted by the handle on top of the case and the setting is indicated on a scale marked in amps and rod size, situated on the front panel.

The welder, which is air cooled, is adjustable between 30 - 120 amps on the high range and 50 - 180 amps on the low range, the maximum welding current for continuous operation being 120 amps and 85 amps respectively.

SERVICES REQUIRED: 230 v. or 400 v. AC.

DIMENSIONS: Height 24 inch. Width 16 inch.
Length 22 inch plus handle.

SUMMARY: The range of welding current covered by the welder makes it suitable for repair work on motor vehicles, tractors, or agricultural implements.

MANUFACTURER: Triangle Products Limited.
Manchester Road,
Hyde,
Cheshire.

DECEMBER 1963 P.T.O.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: PETROL CONSUMPTION METER

MODEL: Amal Mark VII Flowmeter

PURPOSE: To measure the petrol consumption of a vehicle on a Roller Test Bed.

DESCRIPTION: The Flowmeter complete with a one gallon fuel tank is fixed to a backing board, 3' long and 1' wide, and was designed for wall mounting.

The fuel flows from the tank through the main tap to the instrument float chamber and then through one of two venturi selected by separate taps. The fuel consumption rate is indicated on either the left or right hand sight glass against triangular section scales which are rotatable and calibrated on their faces in m.p.g. at 30, 45 and 60 m.p.h.

METHOD: The vehicle is driven on the Roller type Test Bed and the Flowmeter is connected to the carburettor float chamber by means of a length of flexible tube, whilst the vehicle's pump/carburettor fuel line is blanked off.

The Flowmeter petrol taps are turned on and the test speed/m.p.g. range selected.

Once the engine has reached its normal working temperature, a suitable load to compensate for the wind and rolling resistance is applied and the vehicle driven at the fixed speed. An instantaneous fuel consumption rate is then shown on the sight glass.

RECOMMENDATIONS
1. Lead to the introduction of this Flowmeter graduated in miles per gallon for use within a Service Station.

2. To complete the installation, a length of tubing, petrol tap and selection of adaptors are required to suit the many types of fittings and to prevent petrol loss.

SUMMARY: This Flowmeter enables an accurate instantaneous petrol consumption check between the ranges of 6 - 60 m.p.g. to be carried out on a test bed in the Workshop thus eliminating time-consuming road tests.

MANUFACTURER: Amal Ltd., Holdford Road, Witton, Birmingham 6.

DECEMBER 1963

SERIAL No. 123

FILING REFERENCES

- PETROL CONSUMPTION METER
- DISTRIBUTOR
- DEALER

P.T.C.
EQUIPMENT: TYRE TEST TANK.
MODEL: 'AQUARIUM'.
PURPOSE: To aid the location of punctures, air leaks or defective valves in the road wheel assembly, by submersion in clear water.
DESCRIPTION: The body of this test tank is moulded from a single piece of transparent plastic material which is supported in a metal frame.

To the base of the frame four angle iron legs support the tank and between one pair, two wheels of 2" diameter have been mounted to give mobility to the assembly.

An angle iron crossbrace between the legs gives valuable additional support. To the top edge of the framework metal bearing blocks have been welded to locate the wheel mounting spindle during test.

METHOD: The spindle is inserted through the suspect wheel assembly with the cone placed against the wheel centre; and this is locked in position by a further screwed cone.

The assembly is then lowered into the tank of water, until the spindle is supported upon the tank bearings.

The wheel may now be revolved slowly and any escape of air observed.

RECOMMENDATIONS BY BMC: Lead to the introduction of the wheels to make the task of changing the water a much easier operation.

SUMMARY: This tank is equally suitable for testing inner tubes which may be submerged by hand.

By the use of this tank any leak can be easily seen through the transparent body, and due to its mounting a leak from a tubeless tyre or valve can be rectified and tested in position.

SIZE OVERALL: Height 31". Width 14½". Length 35½".

MANUFACTURER: Apascel Limited, Bowes House, Hailsham, Sussex.

DECEMBER 1963
INTRODUCTION: On a recent servicing operation we were asked why we checked the distributor before giving attention to individual components and given below are our reasons.

The efficient operation of an ignition system is dependent on the correct functioning of the primary, or low voltage, circuit. It is essential that sufficient energy builds up in the coil when the contact breaker points are closed to provide a spark when the points open. The energy build up is determined by the duration and amount of current flow in the circuit.

Dwell Angle

The duration of current flow is conveniently checked by a Dwell meter or Oscilloscope and is measured in degrees of cam angle for which the contacts are closed (e.g. 60° to 90° for 4 cylinder engine). Dwell variation with speed and distributor cam irregularities are also checked by these instruments. The dwell angle is related to the contact points gap but pitting and incorrect contours on the contacts introduce errors when the gap is measured by a feeler gauge.

Contact Breaker

The current flow in the coil primary circuit, with the points closed, may be restricted by a low battery voltage, this is readily checked with a voltmeter from the coil SW terminal to earth: or by high resistance in the coil-contact breaker circuit. The condition of this circuit is conveniently checked by measuring the voltage drop from the coil CB terminal to earth, contacts points closed, using a suitable sensitive voltmeter. If the voltage drop does not exceed 0.2 volts, the condition of the circuit and contact breaker is satisfactory, providing the contact points are visually inspected for adequate thickness when the distributor is lubricated.

If the voltage drop, coil CB terminal to earth, is excessive, a step by step voltage check will rapidly locate the defective component or wiring. Experience has shown that modifications or additions to the circuit often lead to faults which without this check would be attributed to 'points'.

DECEMBER 1963
INTRODUCTION:

Contact points showing excessive voltage drop should be removed and cleaned on a suitable contact grinder to ensure correct contour, but if badly pitted or worn, they should be renewed. The above checks on voltage drop and dwell angle are then repeated to ensure a satisfactory repair.

SUMMARY:
To prevent errors in measurement, it is essential to reduce the voltage drop from C.B. to earth to less than 0.2 volts before measuring the dwell angle on a meter.

If volt drop does not exceed 0.2 volts - do not clean points.

If volt drop exceeds 0.2 volts - check circuit.

On 4 cylinder engines dwell angle 60° ± 3°.

On 6 cylinder engines dwell angle 35° ± 3°.

The wider the gap the shorter the dwell.

Therefore, if dwell angle is too much - open the points, if dwell angle is too little - close the points.
WHEEL ALIGNMENT GAUGE
CG/4-5 Wheel Camber, Castor and King Pin Gauge.
CG/6 Steering Turntables with Ramps.

PURPOSE:
A portable means for measuring wheel geometry.

DESCRIPTION:
Of a machined die-cast alloy construction, the CG/4 Gauge is designed to measure Camber Angles and floor level.

Upon the spigot of the appropriate clamping device is mounted the CG/5 Gauge in order that the Castor Angle and King Pin Inclination may be measured simultaneously.

The CG/6 Steering Turntables have the ability of giving fore, aft and lateral movement to facilitate the measurement of Castor and King Pin angles, also Toe-out on turns.

The wooden approach ramps supplied with the Turntables assist with mounting the wheels upon the plates, also to raise the rear of the vehicle to the same height as the front.

After ensuring correct tyre pressures, the vehicle to be checked is run onto the Turntables and wooden ramps.

To measure Camber, the CG/4 Gauge is held upright against the tyre wall avoiding that part of the tyre bulging by deflection. The Camber reading is read directly from the spirit level adjusting screw after taking any floor slope into account.

With the vehicles foot brake firmly applied, the wheels are in turn steered through the 20° angles and the Castor and King Pin Inclination measured.

It is also possible to measure Toe-out on Turns during this sequence by cross reference to the calibrations of the steering Turntables.

RECOMMENDATIONS BY B M C:
1. When fastening the clamping device to the stub axle nut, the surfaces of the nut should be examined to ensure freedom from metal burrs.
2. A suitable brake pedal depressor should be used, thereby enabling one operator to complete the geometry check unaided.

SUMMARY:
Well constructed throughout, the various Gauges and Adaptors are presented in a wooden carrying case and the kit has given satisfactory performance when applied to all types of BMC vehicles, up to 30 cwt. front axle loading.

The Steering Turntable and Ramps, although sold separately, were found necessary to complete an efficient steering geometry check.

MANUFACTURER: Dunlop Rubber Co. Ltd., Fort Dunlop, Birmingham, 24.

P.T.O.
EQUIPMENT: MOBILE LUBRICATION UNIT

MODEL: 'Multi-Luber' KGS.140

PURPOSE: To provide a means of lubricating a vehicle wherever a compressed air line is available.

DESCRIPTION: This mobile unit is mounted on two fixed 6 inch diameter wheels, centrally mounted with a single swivel castor wheel at either end.

Three separate lubrication services are provided, these being one grease and two oil units whose capacities are 1 cwt. and 10 gallons respectively.

Self-contained step up pressure supply pumps are inserted into the original drums which in turn are clamped to the trolley base.

A mains air line is attached to the trolley framework which supplies power to the individual units.

The services provided include a separate air line for tyre inflation, a penetrating oil spray gun and these are supplied through 20 foot lengths of hose.

Detachable side and end panels support the hoses when not in use.

SERVICES REQUIRED: Compressed Air @ 100 p.s.i.

RECOMMENDATIONS BY B.M.C.: That the single air take off is changed for a double unit, to enable additional items such as the air line and any pneumatic tools to be used at any one time.

SUMMARY: By the use of this mobile unit the lubrication and tyre inflation facilities can be placed close to a vehicle and operated by connecting one air hose to the nearest supply.

SIZE: Overall Width 2 feet. Height 3 feet 4 inches. Length 5 feet.

MANUFACTURER: Kismet Ltd., Fenlake Works, Bedford.

NOVEMBER 1963
VEHICLE TRAILER

'Car Carrier'

To provide a means of transporting a complete motor car or light commercial vehicles, which can be operated by one person.

This four wheeled close coupled trailer has platform lengths of 13 feet with an overall width of 5' 10" and has a carrying capacity of 35 cwt.

To the cross braced chassis members are welded the platform supports and to these the 1' 5" wide wooden platforms are fitted.

Beneath the rear of the trailer support brackets locate the detachable ramps. A low geared winch is forward mounted to enable a vehicle to be pulled into position which can then be retained by clamps, or tied through hoops welded to the platform.

The trailer has 'Flexitor' trailing link independent suspension and incorporates a combined over-run/ hand brake operating on the forward pair of wheels. The two rear drop stands are held in position by quick release clamps, whilst the front jockey wheel is adjustable to assist when attaching to the towing vehicle.

Have resulted in detail improvements being incorporated.

On the trailer assessed, an additional centrally placed ramp and platform galvanised covered was installed to enable a damaged vehicle to be pulled onto the trailer whilst supported on a Trolley Jack.

This trailer enables vehicle to be moved when it is undesirable to tow upon its own wheels.

Overall length 18 foot. Width 7 foot, 6 inches.
6.40 x 13 inches diameter x 6 ply.

Messes. Tollbridge Trailers, LYMINGTON, Hants.
EQUIPMENT: ELECTRICIANS TOOLS

MODEL: B.M.C. Super Ch - Amp Kit
       MR/M. 506

PURPOSE: For the repair and maintenance of motor vehicle electrical wiring.

DESCRIPTION: The terminal kit is contained in a steel box which is sub-divided to hold fifteen types of terminals, suitable for 22 A.W.G. to 10 A.W.G. wire sizes, and a hand crimping tool.

The solderless terminals and splices, which are insulated and colour coded according to wire size, are crimped to the stripped cable end using the appropriate die in the tool jaws and then the insulation of the terminal is crimped to the wire insulation using the top die of the tool; thus ensuring a sound electrical and mechanical connection.

The hand tool is also suitable for shearing bolts up to No. 10 U.N.F. and for cutting and stripping cable.

LIMITATIONS: It is essential that the tool is closed fully to ensure efficient crimping.

SUMMARY: (1) This Kit has been specially produced for use on B.M.C. vehicles, but alternate terminals are available.

(2) This Kit will enable rapid repairs and connection of accessories to be made to motor vehicle electric wiring.

MANUFACTURER: Aircraft-Marine Products (G.B.) Ltd.,
       (Maintenance and Repair Division),
       Amplo House,
       87-89 Saffron Hill,
       LONDON, E.C.1.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: NOISE LOCATOR
MODEL: Sonicaid Tunable Stethoscope
PURPOSE: The detection and location of noise in a motor vehicle engine.
DESCRIPTION: The Sonicaid Tunable Stethoscope is supplied complete with two aluminium and one insulated probe in a wooden case.

The Stethoscope consists of an acoustic chamber attached to a pistol grip handle, and connected to the twin chromium plated earpiece by two rubber tubes. The probe screw onto a diaphragm suspended in rubber and housed in the acoustic chamber.

By rotating the knob on the back of the unit the instrument is tuned to amplify the wanted sound and to minimize the background noise, thus enabling the operator to readily trace the source of sound. The sensitivity of the instrument is adequate for use on motor vehicles even when reduced slightly by the insulated probe.

DIMENSIONS: Case 12 inches x 7⅜ inches x 2 5/8 inches.
Probe Lengths – Aluminium Alloy 4¼ inches and 11 inches, Insulated 11 inches.

SUMMARY: This instrument enables the operator to trace bearing noise in motor vehicle components whilst minimizing the general background engine noise.

MANUFACTURER: Sonicaid Ltd.,
82 Lampton Road,
HOUNSLOW,
Middlesex.

OCTOBER 1963
EQUIPMENT: WORKSHOP WASTE DISPOSAL

MODEL: Can Crusher J.W.P. 353

PURPOSE: To reduce the size of small metal oil cans to aid disposal.

DESCRIPTION: Designed for wall mounting and constructed of ⅛ inch steel plate, the Can Crusher consists of an open ended box with hinged corners and fitted with a detachable tubular handle.

The can for disposal is placed in the Can Crusher and a downward movement of the handle flattens it, the waste oil falling into the sheet metal drip tray. A connection is provided in the tray for a length of ¼ inch bore hose, to drain the oil into a suitable container.

DIMENSIONS: 12½ inches high, 6½ inches wide, 6 inches deep.

Handle - 24 inches long.

SUMMARY: The maximum opening of the Can Crusher is 4½ inches square, which enables the round and oblong pint or quart size cans to be readily crushed.

The Can Crusher will enable the Workshop to considerably reduce the bulk of empty oil cans or tins before disposal in a dustbin or other receptacle.

MANUFACTURER: J.W. Pickavant & Co. Ltd.,
Bow Street,
BIRMINGHAM 1.
EQUIPMENT: EXHAUST PIPE STORAGE

MODEL: Exhaust Pipe Rotarok

PURPOSE: The storage of exhaust pipes in the minimum of space.

DESCRIPTION: The Rotarok stores the exhaust pipes in a vertical position resting on a circular steel mesh tray and retained by strip steel segments which are clamped to the vertical centre tube.

The segments may be positioned to suit the various sizes of exhaust pipes stored and the whole unit is readily rotatable on a four legged base with provision for bolting to the floor.

DIMENSIONS: Standard Model: 3ft. diameter - 7 ft. high.
Large Model: 4 ft. 6 inch. diameter - 7 ft. high.

SUMMARY: The standard model will store up to 60 pipes and the large model up to 100 pipes.

The Rotarok may be installed in a corner and still give ready access to any exhaust pipe.

MANUFACTURERS: Trupoint Motor Accessories Ltd.,
106, Lower Ashley Road,
BRISTOL 2.
EQUIPMENT: ANTIFREEZE TESTER

MODEL: Bluecol Tester

PURPOSE: To enable the density of the antifreeze solution in the cooling system to be checked and adjusted to the recommended percentages.

DESCRIPTION: This tester consists of two glass cylinders mounted in rubber within which a thermometer and graduated glass float are housed.

A sample of the coolant solution is drawn into the tester and from the readings obtained the 'slide rule' card indicates the amount of antifreeze required to give the desired amount of frost protection.

METHOD: The engine is run until it reaches its normal working temperature, and a quantity of the coolant is syphoned into the instrument and then released to heat the instrument. A further sample is drawn in until it reaches the scribed lines on the body of the instrument and to prevent fluid loss the end of the tube is nipped.

The temperature is noted, together with the letter shown on the glass float against the level of the antifreeze, the sample is then returned to the radiator.

These readings are then used on the slide rule to show the true content of Bluecol in the cooling system.

On the reverse side of the slide rule is a chart showing the amount of antifreeze which must be added to the system to bring this to the recommended solution.

SUMMARY: For garage use a wall chart and descriptive literature are supplied.

Neatly packed in a moulded foam container, this tester and slide rule provides a quick and reliable method of determining the antifreeze content.

MANUFACTURER: Smiths Motor Accessories Division, Oxtgate Lane, LONDON, NW.2.
EQUIPMENT: HAND-OPERATED EMBOSING TOOL.

MODEL: Dymo Tapewriter M 5.

PURPOSE: Following publication of Service Development & Technique Bulletin No. 51, we have been requested for details of a smaller cheaper labelling machine having the same performance.

DESCRIPTION: Basically, similar in operation and construction to the model described earlier, this equipment dispenses a smaller 3/8" wide tape and the tapes are again available in a wide variety of colours.

The desired tape, already supplied in a plastic magazine, is loaded into the machine and fed forward through a guide channel and roller to the 'start' line.

Printing is achieved by dialling the required letter or numeral and squeezing the operating handle.

An improved guillotine is now incorporated to sever the completed label cleanly and squarely.

SUMMARY: On this smaller, lighter machine, the good quality of construction is maintained and again, the unit is heavily chromium plated throughout.

A nylon dial is utilised on this model giving equal wearing characteristics without affecting the quality of the lettering legibility.

OVERALL DIMENSIONS: 8 1/4" long x 2 1/4" wide x 3" deep.

CONCESSIONAIRES: Hellerman Equipment Ltd., Gatwick Road, Crawley, Sussex.

MODEL TESTED SUPPLIED BY: Office Equipment (Maidstone) Ltd., 26 Landway, Bearsted, Nr. Maidstone, Kent.
SUBJECT: Wheel Balancing

We are constantly asked for an appraisal of the merits of 'on' and 'off' the vehicle methods of balancing road wheels and given below are our findings on this subject, together with some thoughts on the work necessary prior to undertaking wheel balancing.

BASIC REQUIREMENTS:

The most important feature of any wheel balancer is that it is capable of rectifying both kinetic and dynamic unbalance.

It is also desirable for it to take into account the effect of speed on the tyre and, if possible, this should be equal to, or approaching the vehicle's maximum speed.

Before rectifying any unbalance in the road wheel assemblies, they should be examined for the following, which could result in additional work for the repair shop:

1. Buckled or damaged wheels, including eccentric stud holes.
2. Weak spots on tyre wall, or tread.
3. Worn tread indicating suspension misalignment.
4. Correct tyre pressure.
5. Excess dirt and mud should be removed.
6. Stones and foreign bodies in the tread should be removed, and any damage rectified.
7. Old balance weights should be removed.

SEPTEMBER 1963
DIFFERENCES BETWEEN METHODS

Basically the main differences between the two methods are that with the 'on' the vehicle method, the imbalance in the complete assembly including hub and drum is taken into account, whereas, with the 'off' the vehicle method only the imbalance existing in the wheel and tyre is considered.

'ON' THE VEHICLE METHOD

This has the advantage that it is unnecessary to remove the wheel from the vehicle, thus saving time in the removal and replacement of the hub cap, rimболter or wheel nuts, which could be considerable, especially where a commercial vehicle is involved.

By revolving the wheel at a speed equivalent to that obtained on the road it is possible to observe the behaviour of the tyre and note vibrations induced in the vehicle, at all speeds and so reduce this to a minimum.

Noisy wheel bearings can also be detected.

Ideally whenever a wheel is removed it should be rebalanced in its new position.

'OFF' THE VEHICLE METHOD

With this method it is not essential for the vehicle to be present when the balancing is carried out and is, therefore, a great asset to concerns specialising in tyre service.

The disadvantage is that the wheel assembly has to be 'man handled' and fitted to an adaptor plate which is a time consuming operation.
EQUIPMENT: DISPOSABLE SACKS
MODELS: ST/13 0W/13
PURPOSE: To speed the process of refuse collection.

DESCRIPTION: A multi-layer disposable paper sack is held around a circular sheet metal panel by a strong metal bar. To the top of the holder a pressed steel lid may be fitted to provide a closed container.

Illustrated overleaf are two of the many types available. Those on the right are intended for use where it is not convenient to attach the mounting bracket to a wall or stand-on. The mobile type enables a collection to be made and the assembly wheeled to the refuse disposal point.

The units tested were finished in white enamel, but for outdoor use the galvanised models are advisable.

OPERATION: To replace the sacks, both hinged clamping bars are swung open and the new sack is offered to the circular holder. Two spikes pierce the bag to assist in keeping this in position while the clamping bars are replaced.

SUMMARY: During tests it was found that the two ply bituminised sacks were most satisfactory for use within the workshop as these were capable of retaining small quantities of oil associated with the disposal of oil filters and empty oil tins.

Through the use of the sacks the dirty task of cleaning a dust bin is eliminated together with the time involved in returning the empty container.

SIZE OF HOLDER: Height 43” Width 163” Depth 17”
SIZE OF SACK: " 39” " 14” " 8”
MANUFACTURER: Reed Medway Sacks Ltd., Larkfield, Nr. Maidstone, Kent.
EQUIPMENT: Ratchet Screwdriver

MODEL: P 12232

PURPOSE: To assist in reaching 'Phillips' headed screws situated in confined spaces.

DESCRIPTION: This light-weight ratchet screwdriver is intended for use with the small and medium size 'Phillips' headed screws.

The blades are made from hardened and tempered tool steel whilst the body handle which incorporates the ratchet mechanism is formed from sheet metal pressings which are riveted together.

OPERATION: The direction of rotation of the blades is changed by a simple flick-over lever incorporated within the handle.

SUMMARY: As the blades are mounted at right angles to the handle, this permits a greater effort to be applied to the screw than is possible with the smaller straight shanked screwdriver.

One of the main advantages is that due to the small overall height, screws may be reached in places where a conventional cranked screwdriver cannot operate.

Although of light-weight construction, this screwdriver has proved to be sufficiently robust for general bodyshop use.

SIZE: Overall length: 4" Overall height: 1 1/4"

MANUFACTURER: J.W. Pickawant & Co. Ltd., Bow Street, BIRMINGHAM 1.
EQUIPMENT: IMPACT WRENCH (PNEUMATIC)

MODEL: C.P. 734 'Whippet' Air Wrench

Purpose: The rapid removal and re-assembly of nuts, bolts and screws on motor vehicles.

Description: The 'Whippet' Air Wrench is finished in polished aluminium and supplied with a clear plastic protective cover which also acts as an exhaust air deflector.

The Wrench is designed to operate on all bolt sizes up to $\frac{1}{2}$" diameter. Reverse is operated by the conveniently placed push bar above the trigger and the operating air pressure by the knurled regulator placed adjacent to the air intake.

The Lok-On angle head supplied clamps onto the Wrench and enables the operator to work in restricted spaces. Other items available include a drill chuck, a wire brush and tapping attachment.

Services Required: Compressed Air up to 120 p.s.i. maximum.

Dimensions: 'Whippet' Air Wrench - overall length 7\frac{1}{2}"

side to centre 12" 

With Lok-On angle head - overall length 11\frac{1}{2}"

Weight: 4\frac{1}{4} lbs.

Summary:
1. The Wrench is fitted with 1" square drive.
2. The regular use of the Regulator will enable the operator to rapidly estimate the tightness of nuts.

The 'Whippet' Wrench is well designed and finished and its use will speed up all nut/bolt running operations in the workshop.

Manufacturer: Consolidated Pneumatic Tool Co., Ltd.

Automotive Division

232, Dawes Road,

LONDON S.W. 6

August 1963

P.T.O.
EQUIPMENT: VEHICLE WASH

MODEL: Arch Washer

PURPOSE: For the exterior cleansing of motor vehicles.

DESCRIPTION: Within the channel-sectioned arch arc housed the two plastic/polythene delivery pipe assemblies, together with the control valve and shampoo/detergent container. To the top of the arch is fitted a steel carriage with four tapered rollers which travel within a 4" x 3" overhead joint.

In a separate enclosed container is fitted an 11½ gallon capacity water tank below which is an electrically driven centrifugal pump supplying water, under pressure, to the arch.

METHOD:

1) After positioning the vehicle to be washed centrally below the arch, the water spray is operated and the arch manually traversed along the vehicle to wet the entire surface at a pressure of 36 p.s.i. through the ten gun-metal spray nozzles.

2) By turning the control lever to 'SOAP' the water pressure is reduced to 18 p.s.i. and operates a venturi system, which delivers, through ten separate nozzles, a soap mix in the ratio of 240:1.

3) Following manual agitation to loosen the surface grime, the arch is traversed across the vehicle again for a clean water rinse.

SERVICES REQUIRED:

Water supply also adequate drainage.

Electricity voltages to suit requirements.

SUMMARY:

Operation of the Arch Washer was relatively straightforward and its lightweight construction offered little resistance to movement by the operator.

The shampoo/detergent capacity is sufficient for the cleansing of 15 to 20 vehicles.

The force of the water spray was shown to have adequate covering power and rinsing qualities.

INSTALLATION:

By connection to water and electricity supply, also by fitting to 4" x 3" R.S.J. at 8 ft. height. Floor area required 20' x 12' at.

MANUFACTURERS:

Leycock Engineering Ltd.,
Archer Road,
Millhouses,
SHEFFIELD, S.

AUGUST 1963
EQUIPMENT: Sheet Metal Cutter

MODEL: 'Monodex'

PURPOSE: To enable sheet metal panels to be cleanly cut.

DESCRIPTION: This sheet metal cutter enables mild steel sheet up to 20 s w g and 18 s w g soft metals such as aluminium, brass and copper sheet to be easily cut.

METHOD: Closing of the handles moves the single cutting blade in an upward direction, shearing an \( \frac{1}{4} \)" wide strip through the panel.

Where an inside or right angle cut is required, a \( \frac{1}{4} \)" diameter hole is drilled through which the 'Monodex' blade is inserted and the cut made.

An operator with this cutter is well able to cut along any straight or curved line providing a flat surface exists for \( \frac{1}{4} \)" on either side of the cutter.

RECOMMENDATION BY BMC: That care is taken to ensure only the panel thicknesses recommended are cut, as distortion or even breakage of the cutter blade is possible.

SUMMARY:

1. To reduce cutting effort and wear on the blade, a liberal supply of oil along the line of cut is recommended.

2. Whilst relatively slow, where a large panel is to be extracted, this disadvantage is outweighed by the neat and undistorted panel finish obtained.

MANUFACTURER: Patentools Ltd., Mitre House, Western Road, Brighton.
Tyre Changer

'ACE'

A vertical pillar with a platform conveniently situated at 27½" from the ground is welded to a square base plate.

Also provided is a bead separator and combined tyre mounting and dismounting lever, together with a cone and cam wheel to enable the wheel to be securely located upon the machine.

To remove the tyre, the bead must firstly be freed from rim, which is accomplished by placing the wheel rim and tyre over the base stud and pressing the separator against the rim and into the well of the wheel. Once the bead has been freed the assembly is turned over and the operation repeated.

The wheel complete is then placed over the centre spindle and located in position by the centre cone and locked by the cam against a pin inserted through one of the 21 holes in the spindle.

With the tyre pressed well into the rim, the hall end of the mounting lever is inserted beneath the lip of the tyre on the opposite side and pulled across the wheel until the lever can be rotated around the centre spindle.

If a tube is fitted it may now be removed and the above operation repeated on the lower bead to remove the tyre completely.

To fit a tyre the hooked end of the mounting bar is placed over the rim and under the tyre bead. Light pressure is applied to the tyre and the lever is rotated around the spindle to roll the tyre onto the rim.

RECOMMENDATION BY BMC:

1) That a rubber lubricant is used on the tyre and rim throughout the removal and fitting operations.

2) Care must be taken when working on the tyres of wire spoked Sports Car wheels to prevent damage to the spokes when obstinate tyres are encountered.

SUMMARY:

1) The Ace is suitable for rim sizes of between 10" - 18" rim diameter with tubed or tubeless tyres.

2) This relatively cheap tyre changing machine enables a quick service to be given saving physical effort during tyre changing operations.

SIZE:

Base 14" x 14". Height 36"

MANUFACTURER: Harvey Frost & Co. Ltd., Dunmore Road, BISHOP'S STORTFORD, HERTS.

AUGUST 1963
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: MOBILE WORK BENCH

MODEL: Type B 3/1

PURPOSE: To provide a suitable work surface and storage for a mechanic's hand tools and equipment, which can readily be moved about the workshop.

DESCRIPTION: Basically the bench is comprised of a welded steel angle framework covered by 20 s.w.g. sheet steel panels. There are two doors, having full-length hinges and chromium plated handles, giving access to the storage compartment. A steel drawer is fitted to one side of this compartment to house the smaller tools below which a 13½" wide shelf is provided.

The steel work surface is slightly recessed to retain the smaller components and it is timber-backed for rigidity, giving additional strength when a vice is to be fitted.

The bench is mounted upon four castor wheels for easy movement. When it is required to make the bench stationary, two screw-operated pads are lowered to the ground to prevent movement.

SERVICES REQUIRED: Nil.

SUMMARY: 1. Alternative models are provided with a small paraffin cleansing tank recessed into the work surface.

2. Well finished throughout in a grey hammer-finish enamel paint, the bench has a very neat appearance and has proved to be satisfactorily functional in use, also providing adequate storage facilities.

SIZE OVERALL: 36½" long x 21½" wide x 33½" high.

MANUFACTURER: Mann, Egerton & Co. Ltd., Cromer Road Works, Norwich, NOR 36N.
Portable Wheel Alignment
Indicator KWA 332.

To obtain a rapid assessment of front wheel alignment on all types of vehicles up to 10 tons capacity.

The assembly which measures 30” x 15” x 1” thick, comprises a top Tread Plate which surmounts a Base Plate assembly. Between these plates are fitted four steel rollers bearing assemblies which run the entire length of the plate.

An indicator mechanism, calibrated in ‘feet side slip per mile’ is mounted centrally at one side of the Tread Plate and is protected by the steel carrying bar.

For checking front wheel alignment of rear wheel-drive vehicles, the gauge is placed two to three feet in front of the front wheel, with the indicator to the outside. After ensuring correct tyre pressures the vehicle is pulled forward onto the plate and the pointer reading noted after the wheel has travelled past midway.

For correct alignment the reading should remain at zero for each wheel, indicating no side ‘drag’ or ‘scrubbing’.

When checking alignment of the front wheel drive vehicles, i.e., the ‘Mini’ range also Morris and MG 1100, the plate is positioned the same distance behind the front wheels and the vehicle pulled rearwards over the plate. Again a zero reading should be obtained for correct alignment.

LIMITATIONS:

1. A level floor is essential for correct use of the indicator.

2. An accurate reading will not be obtained where a vehicle’s tyres are severely ‘feathered’

3. This indicator is unsuitable for rear wheel alignment where independent rear suspension is employed.

SUMMARY:

Whilst robustly constructed, it is essential to dismantle, clean and lubricate the equipment at regular intervals to obtain maximum efficiency.

The indicator is suitable for the complete range of BMC cars and commercial vehicles and has proved to be a quick means of obtaining the condition of front wheel alignment without a great deal of preparation.

MANUFACTURER:
Kismet Ltd.,
Fenlake Works,
Bedford.

JULY 1963
EQUIPMENT: Austin Gipsy Breakdown Vehicle. Long Wheel Base.

MODEL: Caffyns Recovery Vehicle.

PURPOSE: To enable any Distributor or Dealer to provide roadside assistance or means of recovering cars and light commercial vehicles.

DESCRIPTION: Fitted to the rear of the Austin Gipsy 4 x 4 Pickup is a 30 cwt, SWL Harvey Frost Crans, and neatly stowed between the support legs is an aluminium alloy box for storage of such items as shackles, tow rope and chains.

Another sturdy weatherproof box has been installed against the back of the cab for housing the headlamps, steering wheel clamp and accessories.

To counteract the extra load when giving a suspended tow additional helper springs or 'Aeon' rubber springs are added to the rear suspension.

An additional 95 amp. hour Battery - connected to the vehicles charging system - is incorporated, together with heavy duty extension leads, thus enabling other vehicles with flat batteries to be restarted.

A wooden floor creeper board, accident warning boards, rigid tow bar and selection of wooden packing blocks are stowed within the pickup and are all readily accessible.

Installed upon the front of the cab is a shaped headboard, and mounted behind this is an amber flashing light and rear facing flood lamp. Illuminated front towing sign, extra rear vision windows, vehicle heater, wander head lamp, first aid kit and fire extinguisher may also be specified.

SUMMARY: From the comprehensive list of equipment available for the four wheeler drive Gipsy, any Service Station should be able to satisfy their requirements and give a first class recovery service to any motorist in distress.

MANUFACTURERS: Caffyns Ltd., Chapel Road, Worthing, Sussex.
EQUIPMENT: Mobile Battery Charger (Booster)

MODEL: Double-Thirty Model AD37

PURPOSE: To provide a ready means of charging a battery on or off the vehicle.

DESCRIPTION: The Double-Thirty Charger, constructed in a well ventilated metal cubicle finished in grey and red enamel, is mounted on two seven inch rubber tyred wheels and fitted with a single handle for ease of movement round the workshop. The mains cable and output lead complete with battery clips are neatly stowed on cleats at the back of the charger.

The output of 6 or 12 volts is selected by a three-way switch, centre position 'off', mounted on the top panel which also contains a meter calibrated 0 - 30 amps with an overload sector marked in red. An automatic taper of the charging rate protects the battery against overheating and damage during charge.

SERVICES REQUIRED: 200 - 250 v. AC.

DIMENSIONS: 30 inch high over handle, 12 inch wide, 11 inch deep.

SUMMARY:

1. The Double-Thirty Charger is suitable for 6 or 12 volt batteries and has a charge rate of 30 amps maximum.
2. The charger may be used to slow charge up to four batteries in parallel.
3. A vehicle may be started after the battery has been charged for a few minutes. The Double-Thirty Charger would supplement the fast charger in a large garage or could be used as a general purpose charger in a small garage.

MANUFACTURER: Crypton Equipment Limited, BRI GWATER, Somerset.

JULY 1963
EQUIPMENT: PANEL STORAGE RACK

PURPOSE: To enable bonnet and boot lid panels which have been removed from the vehicle to be safely stored in the workshop.

DESCRIPTION: The rectangular base has been constructed from 3" wide by 4½" high hardwood. This may be morticed or joined at the corners by simple half lap joints, glued and screwed.

One inch diameter clearance holes 9" centres, have been drilled along the sides but additional holes 3" apart enable full adjustment to be made according to the width required.

The vertical support bars are 5 feet long, one inch outside diameter steel tubing around which is wrapped a layer of foam rubber or felt and is glued in place to protect the painted surfaces of the panels.

SUGGESTED MATERIALS:
- 2 off 8' x 3" x 4½" hardwood
- 2 off 2' x 3" x 4½" hardwood
- 22 off 5' x 1" o/s diameter steel tubing
- Strips of foam rubber or felt.

RECOMMENDATIONS BY BMC: That when bonnet panels are placed in the rack they are placed 'back to back' to prevent the safety catches damaging the adjacent panels.

SUMMARY: Primarily designed for bonnet and boot lids this rack is equally suitable for housing vehicle doors or similar panels.

OVERALL SIZE:
- Length 8', Width 2'.

A BMC Service Limited suggestion which may be produced by your own personnel.

JUNE 1963
EQUIPMENT: VEHICLE WASH

MODEL: Autowash 'Major' KWE.8

PURPOSE: A detergent wash for cars and light commercial vehicles.

DESCRIPTION: A manually-traversed arch wash running on an overhead gantry, is available for operation from water mains supply or with a ½ h.p. electric motor and centrifugal booster pump. A high pressure gun is also supplied for the cleansing of the vehicle's underbody and wheel-arches.

METHOD:
(1) After positioning the vehicle to be washed centrally beneath the overhead gantry, the clear water jets are turned on and the arch traversed the length of vehicle so that all the surface is thoroughly saturated. On the return traverse the detergent jets are turned on.
(2) The operator then quickly goes over the complete vehicle with two lamb'swool mitts in order to loosen the traffic grime.
(3) Traverse the arch over the vehicle with clear water, forward and back, in order to rinse off all detergent.
(4) Allow car to 'stand' to air dry or heat off according to requirements.

SERVICES REQUIRED: Water Mains operated units require a minimum delivery of 64 gallons per minute through a 3" mains outlet. For the power operated model, electric motors are available to suit local requirements.

SUMMARY: The wash has proved to be quite satisfactory in use for all cars and light commercial vehicles. The pressure produced at the arch gives a fine and voluminous spray and has shown considerable time saving in the application and removal of detergent also when rinsing, and the high pressure hand gun is ideal for the removal of grit from road wheels and wheel arches.

INSTALLATION: Floor space with adequate drainage of dimensions 12' 6" wide x 20 ft. long. Height of underside joint from floor level equals 8 ft.

MANUFACTURER: Kisae Ltd., Fenlake Works, Bedford.

JUNE 1963
EQUIPMENT: Motion Paint Dryer.

MODEL: "Hastral".

PURPOSE: For the drying of primer, stopper, sealer and final paint coats during local paint rectifications.

DESCRIPTION: The equipment consists of a coiled infra-red heating element housed within a 14" diameter alloy dished reflector. The outer pressed sheet metal casing incorporates a thin mesh guard across the front of the element whilst at the back is fixed the polished wood carrying handle. and points for connection to electricity supply and air to feed the blower when required.

METHOD OF USE: The dryer is connected to the power supplies and is gently waved in a pendulum or circular motion across the area to be dried at an approximate distance of 4" from the surface. The purpose of the air blower is to aid drying of final paint coats, but it should not be used when drying primers, stoppers or filler coats.

It is recommended that the heat is not continuously applied to the surface but merely for 30 seconds to 1 minute, in order to introduce sufficient heat into the panel.

The dryer is then removed and the heat accumulated in the panel allowed to work gradually to the surface to dry the paint.

SERVICES REQUIRED: 220 v. or 110 v. AC supply.
Air supply of 30 p.p.s.

SUMMARY: Weighing approximately 4½ lbs., without leads, the dryer is necessarily built from lightweight materials and must therefore be handled with care to prevent damage.

Results obtained with the equipment have shown to be satisfactory and correct use of the dryer has resulted in considerable time savings during paint drying operations.

B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: JACKING BEAM
MODEL: EPCO JACKING BEAM JH 15
PURPOSE: To enable the front or rear of a vehicle to be raised when on a pit or lift.

DESCRIPTION: The hydraulic jacking beam is designed for a maximum load of 15 cwt. and lift of 5½ inches. It is intended to be mounted across a pit with a distance between side supports of 34 inches minimum to 38½ inches maximum. The support brackets at each end of the beam are adjustable and locked by screws.

The lifting beam is fitted with two sliding saddles which are adjustable to a maximum width of 27 inches. Swivel crutches, adjustable in height, may be fitted to the saddles and are suitable for lifting front or rear suspensions. Outrigger beams are also supplied which increase the width up to 50½ inches maximum, with additional height adjustment by screwed adaptor pads.

The jacking beam is operated by a double acting manual pump, the handle and control being at a convenient height for operation.

RECOMMENDATION BY B.M.C.: When the jacking beam has been positioned squarely with the pit, it is essential to tighten fully the bolts locking the support brackets.

SUMMARY: 1) Since the 'hook type' support brackets would not be suitable for all installations, alternative 'flat plate type' are available. Depth of jack body below supports are, 'hook type' = 8½", 'flat type' = 6¾".

2) On certain installations it may be more convenient to arrange these jacking beams at either end of the pit or lift to enable vehicles to be raised to a wheel free position.

3) Whilst primarily designed for use on a pit, the jacking beam can be successfully used on a lift and if necessary, a depression should be made in the floor to accommodate the body of the beam.

WEIGHT: 132 lbs.


JUNE 1963

P.T.O.
EQUIPMENT: Vehicle Lift.
MODEL: 'MINI' Car Lift.
PURPOSE: To raise vehicles weighing up to 16 cwt. to a wheel-free height of 3 ft.
DESCRIPTION AND METHOD: A rectangular rigid steel framework houses and parallel action steel linkages and single centrally positioned hydraulic ram. Encased at one end of the framework is the 1½ h.p. electric motor, oil pump, oil reservoir and release valve.
Dependent upon requirements, the lift can be supplied with or without spring-loaded castors and a detachable handle.
The vehicle to be lifted is driven over the lift and the relevant pick-up pads correctly positioned. The oil release valve is closed and the electric motor started. Oil is pumped into the hydraulic ram and the lever action of the linkage provide the vertical lift. When fully extended a cut-out switch stops the motor simultaneously with the mechanical engagement of two steel safety pawls. When lowering, these safety pawls are first disengaged before opening the oil release valve.
LIMITATION: A reasonably level and even floor area is essential for movement of the mobile version, also to provide secure location of the lift framework when loaded.
SERVICES REQUIRED: Electricity - to suit requirements.
RECOMMENDATIONS BY BMC: 1) Where the ADG15 range of vehicles are to be lifted the pick-up pads must be located upon the front and rear sub-frame members.
2) To ensure sufficient clearance under all vehicles, two wooden planks 9" wide x 1½" thick, should be placed at the sides of the lift to enable the pick-up pads to be positioned.
3) Where voltages above 250 volts are employed, the use of armoured sheathed power cable is recommended.
SUMMARY: With the exception of the exhaust assembly, petrol feed and hydraulic brake pipes, the majority of components can be worked upon at a convenient height. Designed primarily for the lifting of the 'Mini' range of vehicles, the lift can also raise other BMC vehicles below the 16 cwt. limit.
The illustration overleaf shows the special mobile model mounted on spring loaded castors, detachable handle and suggested ramps in position.
OVERALL SIZE: Height 5". Width 2' 6½". Length 9' 6".
MANUFACTURER: Mann Egerton & Co. Ltd., Engineering Division, Cromer Road, Norwich, NOR 38N, Norfolk.

MAY 1963

P.T.O.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: TOWING AMBULANCE - MOBILE CRANE.
MODEL: 'Tow-Boy' Mark II
PURPOSE: To recover disabled motor cars and light commercial vehicles.
DESCRIPTION: The Tow-Boy is a combined crane and towing ambulance which can be pulled behind any vehicle equipped with a towing eye.

With a lifting capacity of one ton, the hand winch is low geared enabling the vehicle to be easily raised.

Of tubular construction, the axle is sprung and the pneumatic tyred wheels are covered with rubber mudguards. A combined over-run and hand brake operates on each wheel, and to aid mobility when parking, a swivel castor wheel has been introduced near the towing eye.

METHOD: The towing vehicle complete with Tow-Boy is placed in front of the disabled vehicle, the 'tie-bar' retaining pin is removed and the 'lifting bar' then lowered almost to ground level.

The extension chains are then placed around the suspension or chassis frame members and anchored into the chain.

As the stout wire cable is wound into the winch, the support blocks and packings are placed over the chains and in front of the lifting bar to prevent damage and the vehicle raised until it is supported by the Tow-Boy.

The cross-bar tie is then connected to prevent forward movement and side swing, the Tow-Boy hand brake is released and the vehicle is then ready for towing.

RECOMMENDATION BY BMC: That a selection of wooden blocks and packings are made available to prevent damage to the disabled vehicle.

SUMMARY: The rear of the towing vehicle is weighted if necessary to counter-act the upward thrust when the Tow Boy is loaded and that the towing eye is between 13½ and 15″ above the ground.

The Tow Boy has proved that it is capable of supplementing the heavier breakdown equipment in the recovery of disabled motor cars and light commercial vehicles and through the ease of use, can be considered a one-man operation, although an attendant is necessary to satisfy British regulations.

SIZE: Length 6' 9″, Width 3' 2″, Height 5' 3″.
MANUFACTURER: Harvey Frost & Co. Ltd., Dunmow Road, Bishops Stortford, Herts.

SERIAL No. | 95
FILING REFERENCES
TOWING AMBULANCE | 2
DISTRIBUTOR | 1
DEALER | 1

MAY 1963
EQUIPMENT: TROLLEY JACK

MODELS: Epco Hi-Lite Jack No. 55

PURPOSE: To provide the mechanic with a ready means of raising one end of a vehicle.

DESCRIPTION: The Hi-Lite Jack, with a maximum load of 1 1/2 tons, is constructed on a steel chassis with two fixed wheels and two ball bearing castor wheels for ease of movement around the workshop. The fixed wheels are widely spaced to ensure stability of the jack when on maximum lift.

The hydraulic system of the jack consists of a one piece pump unit and reservoir fitted with a safety valve to prevent overloading. The release mechanism is easily operated at all positions of the handle which may be locked at 45° in order to move the jack into the required position under the vehicle.

The lifting pad is dished and drilled to clear axle drain plugs.

RECOMMENDATIONS BY BMC: As an additional safe-guard the maximum load of 1 1/2 tons should be clearly marked on the jack.

DIMENSIONS: Overall length 47 1/2", Width over fixed wheels 18 1/2", Height over handle 50" Minumum height over lifting pad 5 1/2"; Raised height over lifting pad 36"

SUMMARY: The Hi-Lite Jack with its special high lift feature has proved very useful in the servicing of motor car and light commercial vehicles.

EQUIPMENT: STATIC WORK BENCH
MODEL: D8 and D6
PURPOSE: To provide the workshop with a large working surface and storage space.
DESCRIPTION: The light weight steel benches are built up from double folded sheet steel sections and when bolted together, form an extremely rigid structure with the legs interlocked for additional strength.

It is possible to adapt the basic bench to suit ones requirement by the addition of a base shelf and backplate.

Provision has been made for the inclusion of drawers in each bench top, so that these may be added at a later date, a hasp is also provided to enable a padlock to be used to lock each drawer.

These benches come in two sizes, which are defined by their length as either the 50" or 74" bench.

Constructed throughout in 14 s.w.g. steel with a lighter 16 s.w.g. steel being used in the construction of the drawers and back plate whilst the unit is finished overall in a hammer finished grey paint.

LIMITATION: No provision has been made for the fitting of a bench vice.

SUMMARY: Neatly presented, these benches satisfy the need where a clear working surface is desired and give adequate storage space for the filters hand tools and light equipment.

SIZE: Length 50" or 74". Height 33½". Depth 26"

MANUFACTURER: Crypton Equipment Ltd., BRIDGEWATER, Somerset.
EQUIPMENT: Pneumatic Vacuum Cleaner

MODEL: 'Pneu-Vac'

PURPOSE: To provide a lightweight, cheap means of removing dirt and small rubbish from the interior of motor vehicles.

DESCRIPTION: This cleaner consists of a swaged tapered tube onto which a dust proof bag is attached.

The metal tube is painted in a hammer finished metal grey, while the control button is in polished aluminium.

At the base of the bag is a zip fastener which enables the contents to be emptied.

METHOD: Once connected to the compressed air supply the cleaner can be taken to a vehicle and operated by depressing the control button.

Air is then discharged from the jet creating a suction which pulls the debris into the dust bag.

SERVICES REQUIRED: Compressed air 50 - 150 p.s.i.

RECOMMENDATIONS: Due to the limited capacity and material of the bag, we suggest that if a cleaner is required for the removal of broken windscreen glass then one of the larger metal container models is obtained.

SUMMARY: Although primarily intended for cleaning the interior of motor vehicles this item is equally suitable for many other workshop operations including the picking up of grit, dust and small items from the floor or workbench.

Since the introduction of this small but effective cleaner, it has enabled any Service Station to provide a forecourt or cleaning service with very little expenditure.

SIZE: Bag, 15" long, 7" wide. Tube, 17" long x 1½" o/d.

MANUFACTURERS: H.P.C. (Engineering) Ltd.,
206 London Road,
Burgess Hill,
Sussex.

MAY 1963
EQUIPMENT: BODY REPAIR EQUIPMENT

MODEL: Mechanical 'Pull-Push'

PURPOSE: To assist the fitter and body repair personnel in the repairing or rebuilding of motor vehicles.

DESCRIPTION: The 'Pull-Push' Kit is supplied loose, in a neat metal tray, or on a printed wall storage unit.

The power unit of the Kit is a mechanical ratchet-operated screwed jack. To this unit is added various screwed extensions or adaptors to enable the set to push apart components from a minimum of 12 inches to a maximum of 70 inches. Two 41 inch long chains and hooks are provided so that easy attachment is provided when the unit is required to pull components together.

To reverse the direction of ram travel, a knurled knob is lifted and given one half turn.

METHOD: To Pull: The ram is extended and from the special adaptors, the chains are placed around the component to be moved and secured to the ram and the ratchet operated.

To Push: To the power unit, extension bars, rubber or serrated metal heads are added accordingly to the length required.

The set is held in position and the desired pressure applied by movement of the detachable handle through a small arc.

RECOMMENDATION: That the screw threads are kept clean and well lubricated and that several shaped hardwood blocks are cut so that the loading can be applied over as large an area as possible.

SUMMARY:
1. Each power unit is rated as being capable of applying 5,000 lbs. pressure and extends a full 12 inches.
2. The extension bars are made from 1 11/32 inch outside diameter steel tubes and finish in bright red.

This set well satisfies the many needs of a Repair Department to provide direct pressure and has the advantage that it can also be used to pull components together.

SIZE OF TRAY: Height 8 inches, Width 7 inches, Length 18 inches.

MANUFACTURER: J.F. Sykes (St. Anne's) Ltd.,
St. Leonards Road,
St. Anne's-On-Sea,
Lancs.

MAY 1963
EQUIPMENT: TOOL BOXES

MODEL: TB.180 CANTILEVER TOOL BOX

PURPOSE: To provide the mechanic with a means of carrying tools around the workshop.

DESCRIPTION: The TB.180 Tool Box is manufactured in 20 s.w.g. sheet steel and finished in blue hammered stove enamel.

The top tray, which clears the box when opened, is 1\(\frac{3}{4}\)" deep and suitable for sockets and spanners or other small tools.

Larger tools may be stored in the lower compartment which is 3\(\frac{3}{4}\)" deep.

The box is fitted with a comfortable handle and a hasp which can be padlocked.

RECOMMENDATIONS BY BMC: Users may find it convenient to insert a partition in the top tray to prevent movement of small tools.

DIMENSIONS: 18" x 7\(\frac{1}{4}\)" x 5\(\frac{1}{2}\)" outside.

WEIGHT: 8\(\frac{1}{4}\) lbs.

SUMMARY: The TB.180 Tool Box is well designed and finished, it is suitable for a mechanic's hand tools or could be used for the storage of small test equipment.

MANUFACTURER: B. Draper & Son Ltd., Kingston Hall Road, KINGSTON-ON-THAMES, Surrey.

MAY 1963.
EQUIPMENT: SHEET METAL CUTTERS

MODEL: 'Turac Drill File' - Drill Reamer

PURPOSE: To bore or enlarge holes in sheet metal, plastic, hardboard, soft metals and rubber.

DESCRIPTION: A complete set consists of three conical shaped cutters packed in a fitted plastic case.

Each tool is made from high speed tool steel and highly polished on the periphery.

OPERATION: The tool must be lubricated with a special cutting paste and then placed against, or into, the material requiring the hole.

As the cutter is rotated, it progressively cuts into the material until the desired size is reached.

The No. 1 and 2 size cutters have their own pilot centres to ensure concentricity and aid cutting.

For sheet metal cutting, the maximum recommended speed is 200 r.p.m. but for general purposes, the recommended spindle speed is up to 450 r.p.m.

LIMITATION: The holes have a very slight taper and therefore, the diameter required must be marked out.

SUMMARY: Throughout the test period, these tools have performed quite satisfactorily in a small hand drill and low speed electric drills. The Shank diameter being \( \frac{1}{4} \) of an inch.

Available separately, these tools have the advantages that they are capable of cutting or enlarging holes between the following sizes:

Tool size 0 - Up to \( \frac{17}{32} \)

Tool size 1 - \( \frac{7}{32} \) to \( \frac{26}{32} \)

Tool size 2 - \( \frac{5}{8} \) to \( \frac{13}{16} \)

Although considered by many as expensive in comparison with a twist drill, these tools have shown their value in cutting holes quickly and with very little 'flash', thus saving effort in drilling and filing motor vehicle panels.

ENGLISH CONCESSIONAIR:

B.B.S. Cutters Ltd.,
New Bond Street,
BIRMINGHAM, 9.
VEHICLE TESTER

Crypton-Heenan 'Rolling Road'

To diagnose power unit, transmission and component faults within the Service Station.

DESCRIPTION:

The equipment consists of a pair of close coupled 20" diameter rollers connected to a Heenan & Froude water brake capable of absorbing 150 b.h.p. at the vehicle driving wheels.

A neat wall-mounted console contains a speedometer graduated from 0 - 120 m.p.h. (195 k.ph.) and a performance index calibrated from 0 - 100 units, the roller disc brake locking and load controls.

Adjustable side rollers and wooden chocks are provided. For true road conditions and high speed tests a portable cooling fan with adjustable cowl is available.

An electrically operated remote load control is taken into the vehicle and by its use, the water brake is loaded, which in turn increases the effort required to rotate the rollers by the driving wheels.

In this way almost any gradient can be simulated thus giving an indication of performance which may be expected under any condition of speed or load when road testing.

OTHER USES:

The general tyre behaviour of the driving wheels, both for deformation and amount of noise emitted, can be carefully studied and due to the large diameter rollers, no increase in tyre pressure is necessary.

Engine gearbox or rear axle noises and vibrations can be heard and located at comparable road speeds on both drive and over-run.

LIMITATION:

Vehicles of track widths 45 - 60"

" " weight up to 4,500 lbs. (2,000 kg.)

RECOMMENDATION

BY BMC

That the optional electrical cooling fan, electronic diagnosis equipment and a petrol flow meter is obtained to enable full benefit to be obtained from such an installation.

SUMMARY:

Through workshop testing, the variable factors, i.e. road surface and weather conditions remain constant, thereby enabling an accurate report to be given, without the time wasting hazards of crowded road testing.

INSTALLATION:

Pit 9' 6" long x 6' 6" wide x 2' deep, with compressed air water supply, and drainage.

MANUFACTURER:

Heenan & Froude Ltd., Worcester.

DISTRIBUTED BY:

Crypton Equipment Ltd., Bridgwater, Somerset.

MARCH 1963

P.T.O.
EQUIPMENT: LUBRICATION EQUIPMENT

MODEL: Portable Drainomatic KW,099

PURPOSE: The draining and disposal of waste oil from engine, gearboxes, and rear axles.

DESCRIPTION: The Drainomatic, which is mounted on four large rubber castors, consists of a welded heavy gauge steel container, capacity 20 gallons, and a large drain bowl adjustable from 3 ft. 8 ins to 5 ft. 8 ins. height. A calibrated sight glass indicates when the container is more than ½ full.

The Drainomatic is emptied by connecting it to the waste oil disposal point in the workshop and to the air line, using the quick release hoses provided. Air pressure automatically and quickly empties the unit, the completion of this operation being visible through the clear plastic waste oil hose.

SERVICES REQUIRED:

SUMMARY: Compressed Air 25 - 150 lbs. sq. in.

This well constructed and finished unit, fitted with air pressure reducing and safety valves in the base, is designed for the rapid and clean drainage/disposal of waste oil from motor vehicles.

DIMENSIONS:

Height (closed) 3 ft. 8 ins. (open) 5 ft. 8 ins.
Diameter 22 ins.

MANUFACTURER: Kimmet Ltd., Penlake Works, BEDFORD.

MARCH 1963
EQUIPMENT: HYDRAULIC PRESS

MODEL: Laycock 60 Ton Hydraulic Press 1551

PURPOSE: To aid the removal and fitting of bushes, bearings, and the straightening of motor vehicle components.

DESCRIPTION: The Hydraulic Press is constructed throughout in heavy steel channel section, the main frame side members are provided with 6" wide slots to accommodate long shafts across the table when using the Vee blocks.

The ram is 5" diameter with a travel of 7" controlled by a dual pressure pump and two needle valves and the load is indicated on a pressure gauge calibrated in tons.

The work table is carried on four screws and is adjusted through its 36" travel by a hand wheel on the main frame. Adjustable centres are mounted on the front of the table for the checking of components. A rack and pinion press, 3 tons capacity is fitted on the main frame and operates on the table extension.

SERVICES REQUIRED: NIL

SUMMARY: The Hydraulic Press, which is finished in two-tone cellulose has adequate pressures for large work whilst the provision of the independent hand press is suitable for light bushes, etc.

DIMENSIONS: Height 79½", Length 54", (29" between side members) Breadth 22½".

WEIGHT: 12 Cwts.

MANUFACTURER: Laycock Engineering Ltd., Millhouses, SHEFFIELD.
EQUIPMENT: SOLDERING IRONS

MODEL: Solon 65 Watt and 125 Watt

PURPOSE: For electrical components and light general soldering in the workshop.

DESCRIPTION: The soldering irons are fitted with oval taper bits into a steel case. A hard wooden handle with a connection box, incorporates a cord grip and rubber reinforcing sleeve to prevent sharp bending of the cable when it leaves the handle.

The iron will reach working temperature from cold in four minutes and may be left on indefinitely providing the bit rests on a heat conducting surface when not in use.

SERVICES REQUIRED: Both soldering irons are available for voltages in the ranges 200 - 250 and 100 - 120 Volts; the 65 Watt iron is also manufactured for 12, 24 and 50 Volts.

SUMMARY: 1. Two yards core cable is supplied for main voltages and 2 core for low voltages.

2. The oval bits are most suitable for work on motor vehicles, but 5/16th" pencil bits are available for both models if required.

The soldering irons are well made with metal parts nickle plated and all parts are readily replaceable when necessary.

MANUFACTURER: Associated Electrical Industries Ltd.,
(Distribution Sales Department),
145 Charing Cross Road,
LONDON, W.C.2.

MARCH 1963
EQUIPMENT: MANUAL IMPACT WRENCH

MODEL: 'Booster' Screwdriver Kit 278

PURPOSE: To assist in the removal of obstinate screws, nuts and Allen key sockets.

DESCRIPTION: The 'Booster' Screwdriver Body is 7½ inches long and 1¼ inches in diameter and included with the kit are two 'Phillips' Screw Adaptors and one Slotted Screw Adaptor and an extension bar.

As the body of the 'Booster' is held firmly in place, the load applied by the hammer turns the square drive in an anti-clockwise direction.

METHOD: The correct adaptor or socket is fitted to the standard ½ inch square drive of the 'Booster' and the tool placed squarely against the item to be removed.

With the aid of a suitably sized hammer (weight 1-2 lbs) the end of the 'Booster' is given a sharp blow, which is transmitted to the end of the adaptor through the helical drive.

SUMMARY: Additional adaptors to suit Allen keys, sockets straight slotted screws and other 'Phillips' screws are available.

Where difficult nuts are encountered, standard sockets can be used on the 'Booster' drive shaft.

Through the use of the 'Booster' many tight or seized screws and nuts have been re-used which might otherwise have been damaged while being removed.

MANUFACTURER: J.W. Pickavant & Co. Ltd., Bow Street, Birmingham.

FEBRUARY 1963
EQUIPMENT: HAND TOOLS

MODEL: Q Max Sheet Metal Punches

PURPOSE: To produce additional holes in motor vehicle panels.

DESCRIPTION & METHOD: The punches consist of a hardened steel punch and die which are pulled together by an Allen screw.

To punch a hole in sheet metal, a pilot hole is drilled to clear the Allen screw, which is then inserted through the die and the hole in the sheet metal. The punch is screwed onto the projecting Allen screw until it is in contact with the metal, the screw is then turned by the Allen key provided when the punch will cut the hole required. A hole is provided in the die to enable the waste blank to be easily removed.

When using the 1" square punch a 3/16" pilot hole is first punched in the metal.

RECOMMENDATIONS BY BMC:

SUMMARY:

1. The Q-Max punch is available in a range of sizes from 1/8" to 25/32" round, 11/16" and 1" square and 15/16" x 21/32" rectangular.

2. The Q-Max punches are suitable for 16 s.w.g. sheet steel maximum but may be used up to 3/16" thickness in hardboard or similar soft material.

The use of these punches will enable the mechanic to rapidly cut extra holes in a vehicle to fit radio aerials, auxiliary instruments and other accessories.

MANUFACTURER: Q-Max (Electronics) Ltd., Napier House, High Holborn, LONDON, W.C.I.
EQUIPMENT: TRANSPORTABLE LUBRICATION BATTERY

MODEL: Wakefield Type 3P

PURPOSE: A mobile means of dispensing gear oils, grease, penetrating oil and air to motor vehicles.

DESCRIPTION: Comprising a steel cabinet mounted upon two fixed 8" diameter pneumatic-tyred wheels and two smaller solid rubber tyred caster wheels for mobility, the oil, grease drums and kegs are mounted inside the unit together with the air-operated supply pumps.

At each end of the cabinet are the gear oil outlets through 12ft. hoses and these are coupled to recording meters measuring quantity supplied.

Chassis grease is dispensed through a 12ft. long pressure hose which is fitted to a swivel arm mounted on top of the cabinet, serving either side of the plant. A flexible extension and adaptors for 'push-on' and hexagon nipples are supplied.

Other services offered by this machine are a 20 ft. length of air hose and a penetrating oil spray gun.

LIMITATION: Due to its moderate capacity, this unit would have a limited application for commercial vehicle service stations.

SERVICES REQUIRED: Compressed air supply at 160 p.s.i.

CAPACITIES: Grease, 1 cwt, Reg. Oils, 2 drums of 12 gallons capacity each. Penetrating oil dispenser, 1 pint capacity.

SUMMARY: Where it is found necessary to 'top-up' oil levels or replenish oils completely, away from the Lubrication Bay, this portable unit has been found to be ideal.

MANUFACTURES: Castrol Ltd., Castrol House, Marylebone Road, London, N.W.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: FORECOURT SERVICE

MODEL: 'Companion' Retractable hose reel and 'Presstair' Wall Meter.

PURPOSE: To dispense air pressure for the tyre inflation of motor vehicles.

DESCRIPTION & METHOD: A 25' long air hose is housed within an alloy, cylindrical cabinet, which also incorporates the re-wind mechanism and hose reel.

This unit is linked by metal pipe to the wall-mounted pressure meter which has a 7" diameter gauge dial and calibrated in 1 lb. increments from 0 to 110 p.s.i. Incorporated within the head unit are the water trap and filter.

After connection to the air supply, operation is by manually setting the hand control to the required pressure. The hose is withdrawn from the reel and the chuck pushed upon the tyre valve causing an audible signal - indicating air delivery - until the required pressure is reached.

The air hose may be extracted from the reel and stopped at approximately every 3 ft; a sharp pull allows the hose to be retracted at a controlled rate.

LIMITATION: There is no indication of exact tyre pressure if it should be above that of the gauge setting, therefore air must be expelled from the tyre before replacing the chuck upon the valve when the audible signal should be heard.

SERVICES REQUIRED: Compressed air supply up to 110 p.s.i. maximum.

SUMMARY: Four-way nylon guide rollers are fitted at the outlet of the hose reel to prevent wear. A hose end locking device is also supplied as standard.

Of sound construction and well finished, the equipment is simple to operate with the retractable hose reel saving time and preventing untidiness.

INSTALLATION: Hose Reel and Wall Meter are fixed to a wall or partitioning by four bolts each. Connection to air supply and electricity for after dark dial illumination.

MANUFACTURERS: Pneumatic Components Ltd, Eyre Street, Sheffield, 1.

FEBRUARY 1963

P.T.O.
EQUIPMENT: ENGINE COMPRESSION & OIL PRESSURE TESTER

MODEL: BXA 35

PURPOSE: To enable both the engine compression and oil pressures to be checked with one instrument.

DESCRIPTION & METHOD: The twin scale circular 3" diameter gauge is neatly graduated from 0 - 250 p.s.i. and 0 - 18 kg/cm. and protected by a reinforced domed plastic face.

From the gauge a transparent flexible hose connects to a hand unit, into which a selection of adaptors fit according to the function being checked.

Petrol Engine Compression Pressure

All of the compression adaptors are fitted with neoprene cones which are held against the sparking plug hole while the engine is turned on the starter or run at idling speeds.

Oil Pressure Checks

The correct adaptor is screwed into the oil pressure gauge feed pipe tapping or is inserted in place of the oil pressure warning light switch. From this, a suitable extension or nylon pipe is screwed to connect with the hand unit and gauge, allowing the engine to be started and tests to commence.

LIMITATION: Where space is restricted within the engine compartment, difficulty might sometimes be experienced in checking the rear cylinder compression pressure.

SUMMARY: To accommodate the various sizes of threads used on BMC engine oilways, special adaptors have been incorporated within this kit, but for users of the earlier BX 35 model, these are available separately.

By the use of this instrument a quick assessment can be made of both the engine cylinder condition and lubricating oil operating pressure.

MANUFACTURER: Crypton Equipment Ltd., Bridgewater, Somerset.

JANUARY 1963
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: HOT BEVERAGE VENDING MACHINE

MODEL: Coffee/Chocolate

PURPOSE: To supply continuously, cups of hot coffee or drinking chocolate.

DESCRIPTION: Housed within a rectangular metal cabinet, the mechanism is completely automatic, requiring only mains water and electrical services for supplying up to 500 cups of hot beverage. Each drink is individually made from instant coffee or chocolate and a choice of five drinks are available. These being black coffee, black coffee with sugar, white coffee, white coffee with sugar, and chocolate.

OPERATION: To vend a cup of beverage, coins to the value of the operator's required price are placed in the coin mechanism and the finger operated drink selector switch depressed.

A disposable cup is automatically passed into the delivery orifice, into which the mixed ingredients are deposited.

Simple instructions are supplied with each machine indicating the method of cleaning and refilling.

SERVICES REQUIRED: Electricity 200/250 Volts, Mains Water Supply.

SUMMARY:

1. Many features have been incorporated to safeguard both the operator and customer, which include a warning light when the machine is empty, coin selection mechanism and overflow switches.

2. The machine is thermostatically controlled, with the water constantly circulating to ensure that each cup is at the desired temperature.

The machine has given consistently good beverages and proved its worth in making hot drinks available at any hour of the day or night, thus giving a service not only to the customers, but to one's own Service personnel.

SIZE:

Height 60", Width 30", Depth 23".

MANUFACTURER:

Fisher & Ludlow Ltd.
(Vending Division),
Bordesley Works,
Clyde Street,
BIRMINGHAM, 12.

JANUARY 1963

P.T.O.
TOOL BOXES

MODEL: Tool-Trolley TT. 36

PURPOSE: To provide a portable means for the mechanic to move tools and light equipment around the workshop.

DESCRIPTION: The Tool Trolley with the removable tool box is constructed in 20 s.w.g. sheet steel and finished in blue hammered stove enamel.

The three tray cantilever tool box 16" x 13" x 7" is fitted with two carrying handles and the lids with a hasp for a padlock.

The top trays are 2½" deep, one is divided into four sections the other into three, including a section for sockets and is fitted with a removable tray 1" deep. The lower tray is divided into two compartments and is fitted with a removable tray 8" x 12½" x 1" deep which is fitted with one partition.

The trolley, on which the tool box rests, is fitted with two 9" rubber tyred wheels at the rear and one 2½" castor at the front. A folding flap, with clips to hold a wheel brace, is hinged to the handle and may be used either as a seat for the operator or a table to carry components, an addition trough suitable for small items is fitted at the rear of the trolley.

RECOMMENDATIONS BY BMC: That the handle is secured by small self-tap screws.

SUMMARY: 1. The Tool Trolley may be used with the tool box open and the flap down when all the tools are readily accessible.

2. The Tool box provides enough storage space for a large selection of tools and can save considerable time in the movement of tools and light equipment to vehicle in the workshop.

MANUFACTURER: B. Draper & Son Ltd.,
Kingston Hall Road,
KINGSTON-ON-THAMES,
Surrey.

JANUARY 1963

P.T.O.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: VEHICLE WASH

MODEL: 'Washmobile' Standard De-Luxe

PURPOSE: To valet the interior and wash the exterior of motor vehicles.

DESCRIPTION: A gantry washing machine running on two floor mounted lengths of inverted angle iron, is traversed across the car by hand. On the sides of the gantry are the controls for the supply of shampoo and water, two high pressure washing guns and an air/vacuum cleaner.

Mounted adjacent to the machine is the 3 h.p. water booster pump operating at 135/150 p.p.s.i.

METHOD:
1. The vehicle is placed in position upon the wash and the interior vacuum cleaned.
2. The water spray is now operated and the gantry traversed to wet the bodywork of the car.
3. The high pressure guns are then used to remove stubborn road grime from the wheels, wheel arches, under-chassis, etc.
4. The shampoo jets are now operated and the spray traversed across the car.
5. The operator now quickly rubs over the car with two lamb'swool mitts soaked in detergent to agitate the grime.
6. Switching to the clear water spray the gantry is traversed until all the shampoo has been rinsed away.
7. The car is then allowed to 'stand' or leathered off, according to requirements.

SERVICES REQUIRED: Electricity to suit requirements. Mains water and compressed air supplies.

SUMMARY: The wash has proved to be quite satisfactory for cleaning and removing normal traffic grime and the pressure from the booster pump gives a strong fine spray with good cleaning qualities.

INSTALLATION: By manufacturer. Floor area required 24' x 14' with water drainage facilities. Height beneath gantry 6'6".


JANUARY 1963
EQUIPMENT: VEHICLE PARKING EQUIPMENT
(Workshop and Showroom)

MODEL: Autoglider AGl/TW.PL

PURPOSE: To enable a motor vehicle to be easily moved within
a restricted space.

DESCRIPTION & METHOD:

Of a 'U' shaped channel section, the Autogliders are
sold in pairs and cast in an aluminium alloy, but open
channel double entry pressed steel models are available.

An Autoglider is placed in front of the leading edge
of the wheels to be raised, the vehicle is then pushed onto
the base which tips and then assumes a horizontal position
once the vehicle's weight is over the centre of the leading
casters.

A locking bar is placed into grooves provided to
prevent the vehicle rolling off.

Ease of movement is ensured by four ball mounted swivel
casters having a pair of 2" diameter wheels, which quickly
turn, enabling the vehicle to be manoeuvred into the smallest
space.

Due to the low ground clearance these units must be used
on smooth floors.

RECOMMENDATIONS BY BMC:

That an Autoglider is used beneath each wheel for
complete mobility.

SUMMARY:

For quiet operation and vehicle showroom floors' wheels,
made from 'Phenolic' plastic material are available, but mild
steel wheels for outdoor and spray booth use may be specified.

Primarily intended for movement of Motor Cars, these
Autogliders are also suitable for light commercial vehicles
and through their use much time can be saved and space
utilised which is the past had necessarily been left for the
movement of the vehicle.

SIZE:

Length 34", width 15", height 4".

MANUFACTURER: Autoset Productions Ltd.,
Stour Street,
BIRMINGHAM, 18.
EQUIPMENT: HYDRAULIC BRAKE SERVICING UNIT

MODEL: JABC.50 SERVAC TESTER

PURPOSE: For testing and locating faults on hydraulic brake and vacuum servo systems.

DESCRIPTION: The Tester, contained in a serviceable wooden case, comprises a hydraulic pressure gauge, a vacuum gauge, and a full range of adaptors and hoses for ready attachment to servo brake systems. Both gauges are fitted with 2 ft. hoses and large metal clips for attachment to suitable points on the vehicle. Detailed instructions, which include data on various types of servo units, are included with the Tester.

TESTING: The high pressure gauge is connected to a suitable point in the brake system by one of the special bleed screws supplied, and the system checked for leaks and efficient servo operation. If further tests are necessary, the vacuum gauge is used with the adaptors in stage-by-stage checks from the engine manifold to and including the servo unit. Faults can be readily isolated in the reservoir, check valve, vacuum balance valve, piston leather and seals, without removing the servo unit from the vehicle.

RECOMMENDATIONS That an adjustable pedal depressor is used in connection with this Tester and protection jaws are fitted to the clips to prevent damage to the vehicle finish.

SUMMARY: This Tester will enable the service mechanic to readily check and trace faults on a servo brake system.

MANUFACTURER: J.A.R. Garage Equipment,
(J.A. Ryley Ltd.),
57 - 65 New Town Row,
BIRMINGHAM, G.

P.T.O.
PNEUMATIC VACUUM CLEANER

'P'

For the removal of dust, dirt and debris from the interior of a vehicle.

The kit comprises the operating unit with 'Air' and 'Vacuum' levers, dust bag, suction hose, extension tubes and various nozzles and connectors.

Operation is by connection to a compressed air supply and by actuation of the 'Vacuum' lever which then draws air and dirt through the machine into the dustbag.

The provision of the 'Air' lever is so that dirt may be blown from inaccessible parts to a more convenient place for suction.

Standard model requires compressed air at 80 p.p.s.i. minimum. Low pressure model will operate from 60 to 100 p.p.s.i.

Where the cleaner is to be continually used for the removal of sharp particles such as shattered windscreen glass, then some reinforcement of the dust bag is necessary to avoid chafing.

In use, the suction powers have shown to be favourable although the prevalent 'hiss' associated with a compressed air outlet has not been eliminated completely.

The air consumption is adjustable by means of a jet setting, according to the suction lift required.

When in use, the inflation of the dust bag tends to make the unit appear cumbersome at first, however, technique of use can overcome this problem.

The cleaner is strongly made and well finished and the lack of moving parts minimises maintenance costs.

N I L

C.M.I. Products Ltd., Finchley Road, London, N.W.3.
EQUIPMENT: DIESEL ENGINE TEST EQUIPMENT
MODEL: Injectester Mark II
PURPOSE: To assist in the diagnosis of faults in the fuel injection system of diesel engines and for adjusting injectors under true operating conditions while the engine is running.

DESCRIPTION: The Injectester is an instrument which is inserted into the high pressure fuel lines of diesel engines to measure accurately the pressures at which the components are operating.

OPERATION: To commence testing the 'Injectester' is connected into the fuel line at the fuel pump or injector and with both valves open the engine is started.

Once all of the air has been expelled from the system, the bleed valve is closed allowing individual checks to be carried out. These include the checking and adjustment of the injector cracking pressure together with further tests to establish if the needle is sticking or the nozzle requires cleaning. Worn or dirty delivery valves and their seating are quickly shown up by irregular fluctuations on the gauge or by a large drop in pressure once the engine has been stopped. The fuel pump element efficiency, under or over calibration, and the amount of leak-by may also be determined.

SUMMARY:
1. The chromium plated 4 inch diameter gauge is clearly calibrated in p.s.i. and atmospheres and houses a red indicator needle which may be used as a guide to compare individual cylinders.
2. As delivery valves are not fitted to the D.P.A. fuel pumps only the line and pump pressure output checks can be made on this type of fuel pump.
3. This unit is supplied complete with a meat blue painted hammer finished metal case which includes two open ended spanners and set of 12 m.m. and 14 m.m. pipes.

Over several years this tool has shown that considerable time is saved and expensive dismantling avoided by the accurate diagnosis of faults under operating conditions.

SIZE OF CARRYING CASE: 11" long, 9" wide, 4" high.

MANUFACTURERS: Dunedin Engineering Co. Ltd.,
73-75 Mortimer Street,
LONDON, W.1.

DECEMBER 1962

P.T.O.
COOLING SYSTEM CLEANSER

'Cosol'

To effectively cleanse radiator and engine cooling systems to regain full efficiency.

DESCRIPTION:

The material is a fine pinkish powder compound which is non-toxic and has the ability to extract iron, calcium, and magnesium salts, etc., by taking them into physical solution without harmful effects on metals and upon such parts as rubber hoses and gaskets.

Each standard 'Cosol' pack of 2½ lbs. weight contains sufficient powder to treat an engine having 3 gallons coolant capacity, and there is also a Mini-pack for smaller engines.

METHOD OF TREATMENT:

1. Drain cooling system completely flushing out as far as possible loose scale and sludge with water.
2. Sprinkle the measured amount of powder into sufficient water to fill the cooling system to be cleaned, stirring continuously until the powder is dissolved.
3. The solution is now poured into the vehicle's radiator and the vehicle used normally for 150/200 miles, checking regularly to ensure correct water level.
4. At the end of this time the system is drained, flushed and re-filled.

RECOMMENDATION BY BMC:

Although non-poisonous, 'Cosol' is concentrated and must be handled with care and it is advisable to wash hands after use.

SUMMARY:

1. Any suspicion of badly seated or corroded gaskets must be corrected before the treatment since the cleaning action of the treatment is liable to penetrate weak spots.
2. Results obtained using this treatment have been satisfactory as sludged and overheating systems have been safely and effectively cleaned.

MANUFACTURERS:

Smith Brothers & Co. (Stratford) Ltd.,
Marshgate,
Stratford,
S.G. Service Limited

CONFIDENTIAL

To: 

From: 

Date: 

Subject: 

PLEASE READ ATTACHMENT.

Sincerely,

[Signature]

[Attachment]
EQUIPMENT: PAINT SHOP MASKING MACHINE

MODEL: Apron Taper AE.218.N

PURPOSE: To reduce the time involved in masking a vehicle prior to refinishing.

DESCRIPTION AND METHOD: The framework of this equipment has been produced from light steel tubing which is welded onto a strip steel base which may be carried about the workshop, attached to a table top or convenient wall or mounted onto a trolley for even easier mobility.

A choice of a 6" and 12", two 9" or one 18" roll of paper is provided and provision has been made for an additional dispenser to be attached at the side of the frame.

Special clamps hold the rolls of masking tape parallel with the end of the roll, and once initially loaded, any length of paper can be removed with a of the tape adhered to the paper with the remainder protruding over the edge.

The paper is threaded through a spring loaded lever bar and once the length required has been selected, this is cut off by simply pulling the paper across a serrated cutting edge.

RECOMMENDATIONS BY BMC: That the machine is firmly secured when table top mounted to prevent movement when paper is torn off, but for ease of use, we suggest that the machine is mounted on a trolley 30" high.

SUMMARY: The Apron Taper provides considerable help in the preparation of vehicles for repainting, saving time in masking large areas and through the ease of application little effort is necessary to cover surrounding panels thus preventing damage from overspray.

SIZE: 27" Long 11" Wide 17" High
(With paper).

MANUFACTURER: Minnesota Mining & Manufacturing Co. Ltd. (Art Division) Arden Road, Adderley Park, Birmingham. 8.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: AUSTIN GIPSY BREAKDOWN VEHICLE

MODEL: 'Drake Protector'

PURPOSE:
To provide a versatile breakdown recovery vehicle for cars and light commercial vehicles.

DESCRIPTION:
Based on the long wheel base 4 x 4 Austin Gipsy, the cabin has been extended to incorporate a covered working and storage area.

Access to the sides of the canopy is gained by raising the spring loaded self supporting doors which also give protection when working during inclement weather. With the doors in the raised position, the six inch swivel mounted vices may be used or the winding gear of the hoist operated.

Large rear lockers, together with drawers beneath the bench surfaces, give storage space for such items as a slave battery, petrol cans, shackles, ropes, levers, etc. Mountings for first-aid kit and fire extinguishers are provided in the driver's cab.

A two ton S W I Mann Egerton & Co. Ltd. Lift is illustrated, but a similar one, manufactured by Harvey Frost & Co. Ltd. is also available. Space between the lifting equipment can be utilised to store packing blocks and a towing ambulance.

Mounted above the front bumper is a Turner Mini Winch.

Many safety features can be incorporated within this vehicle which includes 'Danger' and 'Accident' notices, 'Towing' signs and warning lamps, etc.

RECOMMENDATION
BY BMC

That the vehicle should be equipped with a selection of packing blocks and protective coverings for use on suspended towing.

SUMMARY:
In this form, the Gipsy Breakdown Vehicle provides a unit capable of giving roadside assistance or moving a disabled vehicle to the Service Station.

MANUFACTURER: W. Mumford Ltd., Drake House, Laihe Bridge Road, Plymouth.

NOVEMBER 1962
EQUIPMENT: MOTOR VEHICLE ELECTRICAL TEST EQUIPMENT
MODEL: Avometer Model 12
PURPOSE: To provide a portable means of measuring voltage, current and resistance in Motor Vehicle electrical circuits.

DESCRIPTION: This Meter, which has been specifically designed for the testing of Motor Vehicle electrical circuits, is contained in a sturdy leather case which also holds a complete range of accessories in a built-in tool roll. The meter is used by detaching the lid and stowing it under the case on the clips provided.

The Meter, which has built in overload protection, has a five inch scale, a reverse polarity button, and only one pair of terminals, the following ranges being selected by a single rotary switch:

<table>
<thead>
<tr>
<th>DC Voltage</th>
<th>DC Current</th>
<th>AC Voltage</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3.6 V</td>
<td>0 - 3.6 A</td>
<td>0 - 9 V</td>
<td>0 - 1000 ohms</td>
</tr>
<tr>
<td>0 - 9 V</td>
<td>0 - 36 A</td>
<td>0 - 16 V</td>
<td>(25 ohms, midscale)</td>
</tr>
<tr>
<td>0 - 18 V</td>
<td>0 - 90 A #</td>
<td>0 - 90 V</td>
<td>0 - 10000 ohms</td>
</tr>
<tr>
<td>0 - 36 V #</td>
<td>Ext. Shunt</td>
<td>0 - 360 V</td>
<td>(250 ohms, midscale)</td>
</tr>
</tbody>
</table>

RECOMMENDATIONS BY BMC: Care is needed when using the 90 amp, external shunt, which is of open construction, to prevent shorting or accidental damage to the vehicle.

SERVICES REQUIRED: Internal 1½ Volt Battery.

SUMMARY: In addition to the usual voltage current checks on vehicles, the Meter can be used for the setting of voltage regulators, checking starter currents and the voltage output of A C Generators. Resistance and continuity tests on solenoids, suppression cables, radio aerials and vehicle wiring can also be made quite easily.

DIMENSIONS: 9½” x 9¼” x 4½” Weight 7 lbs. 6 oz.

MANUFACTURER: Avo Ltd., LONDON, SW1.


NOVEMBER 1962
POWER TOOLS (ELECTRIC)

MODEL: Black & Decker Cordless Electric Drill C.600.

PURPOSE: To provide a powered drill independent of external connections.

DESCRIPTION: The Cordless Electric Drill, which is well finished in polished aluminium and black plastic, is powered by a rechargeable low voltage power pack contained in the handle. The power pack can be recharged by a separate mains operated unit, which is plugged into the Drill, at either 10 hours or 16 hour rate, the Drill can be left on indefinitely at the latter rate.

The number of holes which can be drilled with this 4" capacity, 800 r.p.m., portable unit on one charger varies from a minimum of 8 x 1/4" holes in 1/4" cast iron to 100 x 1/4" holes in 16 S.W.G. steel, with corresponding capacity in other materials.

SERVICES: 115 Volts or 230 Volts A.C. for Charger Unit.

LIMITATION: Small ferrous parts and swarf can be picked up by the permanent magnetism on the Drill case.

SUMMARY: The Cordless Drill being self-contained, totally enclosed and low voltage operated can be used in any location without the limitations of power leads or the hazards of electric shock. A safety interlock is incorporated in the trigger switch to prevent accidental operation.

WEIGHT OF DRILL: 4 lbs.

MANUFACTURER: Black & Decker Ltd., Harmondsworth, Middlesex.

SUPPLIER: Power Tools (Specialists) Ltd., Henley Street, Camp Hill, Birmingham, 11.
ENGINE TUNING

TDT 216 Tachometer/Distributor
Dwell Tester.

For checking and adjusting distributor dwell angle
and engine r.p.m.

This portable combined Tach/Dwell Tester, contained
in a metal case, is suitable for 6 or 12 volt operation
on 4, 6 or 8 cylinder vehicles.

The Meter has two ranges of engine speed 0 - 800,
0 - 8000 rpm and the Dwell scales are calibrated
0 - 90° 4 cylinder, 0 - 45° 6 and 8 cylinder engines.
The Meter can also be used to check the voltage drop
across the distributor points, which should be in the
black segment of the scale.

SERVICES
REQUIRED:

One 1½ volt dry cell, one 1.25 volt mercury cell.

RECOMMENDATIONS:

That the bolt in the back of the instrument is
removed before using this as a portable instrument.

SUMMARY:

This portable self-contained instrument is most
useful for the mechanic making checks on vehicles fitted
with Automatic Gear Boxes and initial checks on Distributor
points condition.

DIMENSIONS:

5" wide x 4½" deep x 10" high (over handle), leads
10' long terminated in sleeved clips.

MANUFACTURER:

Suntester Ltd.,
Ripplside Commercial Estate,
Ripple Road,
BARKING,
Essex.
EQUIPMENT: UNIT LIFT

MODEL: 'Vertilift'

PURPOSE: To facilitate the removal or replacement of transmission units with the vehicle in a raised position.

DESCRIPTION & METHOD: A hydraulic ram which provides the lifting power is fixed vertically in a strong steel chassis which is mounted upon four castor wheels for mobility. Lifting and lowering controls are both foot operated which leave the operator's arms free to manoeuvre and adjust the angular position of the lifting head which is able to tilt in two planes.

LIMITATIONS: The lift is designed primarily for use under lifts giving good accessibility to the underside of vehicles such as the twin-post and four-post types or alternatively, in a pit installation.

SERVICES REQUIRED: NONE

SUMMARY: With the clamp adjustment available, the lifting head can accept all types of transmissions. As the height of the lifting head is 45½" when in the lowered position bulky units must still be lifted on or off this height. However, this disadvantage is offset to a great extent by the ease and convenience with which the transmission is tilted to the required angle for entry.

INSTALLATION: NIL

MANUFACTURER: Epcot Ltd.,
Star Works,
LEEDS, 7.
EQUIPMENT: NOISE LOCATOR

MODEL: Minear Electronic Stethoscope

PURPOSE: An electronic Stethoscope to detect and trace knocks, bearing noise and squeaks in a motor vehicle.

DESCRIPTION: The instrument, contained in a serviceable wooden case, consists of a chromium plated cylinder, 1" diameter, 4" long, terminated in a 4" insulated probe, a 3½" extension probe is also supplied. A combined on/off switch and thumb operated volume control is incorporated and the binaural headset plugs into the side of the unit.

The probe is insulated at the point of attachment to the body of the instrument eliminating any risk of shock when being used in the vicinity of electrical equipment. Longer extension probes could, if required, be readily fitted to the Stethoscope.

SERVICES REQUIRED: One 2.5 Volt Mercury Cell

SUMMARY: Among the additional equipment which is obtainable for use with the Minear is a two-way connector enabling two headsets to be used at once. The Stethoscope can also be connected to a tape recorder or amplified loudspeaker via a 'dummy load' attachment.

The instrument is well designed and finished with all metal parts chromium plated. The volume control is a great asset in tracing noises of different intensities.

INSTALLATION: N I L

MANUFACTURER: MINEAR HOLDINGS LTD.,
7 - 9 HIGH STREET,
SELELY,
SUSSEX.

OCTOBER 1962
EQUIPMENT: MOBILE WORK BENCH
MODEL: CPWB/2
PURPOSE: To provide a mobile work surface and means of storing tools in a Repair Station.
DESCRIPTION: Comprising an arc-welded framework of 1½" x 1½" x 3/16" angle iron, the working surface consists of 1½" timber covered with 20 gauge galvanised sheet.

The locker provided has two fixed shelves, a 7 lever lock, polished aluminium handle and a ticket holder.

Movement of the bench is achieved by lifting the attached cross bar, thereby bringing the fixed castors into operation.

FINISH: The framework is stove enamelled "Metallic Grey", while the interior of the locker is finished in Aluminium.

LIMITATION: Due to the weight involved in raising the bench, this should be lightly loaded when movement is envisaged.

SUMMARY: Supplying sufficient working and storage space, this bench fulfils the need for the occasional transportation of hand tools and light equipment about the Workshop.

SIZE: 41" long x 34" high x 20¼" deep.

MANUFACTURERS: Colsum Steel Equipment
KENILWORTH,
Warwickshire.
EQUIPMENT: ENGINE TUNING

MODEL: Motorscope BD.116

PURPOSE: To rapidly diagnose electrical, ignition, compression, and carburation troubles, and to enable tuning adjustments to be accurately carried out.

DESCRIPTION & METHOD: The main feature of this Tester is the inclusion of an 8½" cathode ray oscilloscope. Combined with this, is a multi-purpose volt-tach-dwell meter, an ignition timing auto advance meter, and a vacuum/fuel pump pressure gauge.

This compact tester is supplied on a neat mobile base which may also be used for housing other test equipment and leads.

By connecting four electrical test leads and one vacuum pipe to the vehicle, comprehensive tests may be carried out in sequence. In addition to checking the battery, starter, charging system, and ignition timing, the Motorscope has the facility that both primary and secondary ignition patterns can be displayed on the oscilloscope screen. This enables rapid checks to be made on the contact breaker, condenser, dwell angle overlap and variation and also, coil, plug, h.t. cables and rotor gap condition.

H.T. ignition voltages can be measured on the screen which is calibrated in two ranges, 0 - 15 KV., 0 - 30 KV., and the plug voltages can be compared with available coil output.

SUMMARY: The Exhaust Gas Analyser (Bulletin No. 5) is shown housed within the roller shutter cubical, but is available separately.

Operation of the Motorscope has been greatly simplified by the incorporation of a master selector switch and through frequent use, operators can quickly detect irregularities within the power unit, saving considerable time in rectification.

SERVICES: 230 V. A.C. supply.

DIMENSIONS: 29" wide x 25" deep x 47" high.

EQUIPMENT: PETROL COMPRESSION TESTER

MODEL: 'Autotester' (Mark II)

PURPOSE: To check compression pressures in a full throttle condition on the starter or at normal engine running speeds.

DESCRIPTION & METHOD: The four inch diameter Gauge incorporates a manually set maximum reading pointer, is clearly graduated in both pounds per square inch and kilograms per square centimeter and is connected to an adaptor by an eleven inch length of flexible braided hose.

Adaptors suitable for screwing into fourteen or eighteen mm. sparking plug holes are placed in position and a gas tight joint obtained by tightening onto a copper asbestos washer provided.

The Gauge is then attached, allowing testing to commence. A pressure release button has been introduced, enabling several readings to be taken without disconnecting the Gauge.

LIMITATION: Due to the length of the adaptor, difficulty is occasionally experienced in reaching the rear cylinders of vehicles where access to the sparking plugs is restricted.

RECOMMENDATIONS

BY BMC: 1. That the testing is carried out as quickly as possible.

2. Have resulted in an open-ended spanner being incorporated, making the Kit completely self-contained.

SUMMARY: The strong painted metal case is fitted with various clips to enable the instrument and tools to be stowed safely in transit.

Included in the Kit is an open-ended spanner, together with a double-ended box spanner and Tee bar.

The instrument in this form has proved satisfactory for all types of compression testing and very accurate figures are obtained at a glance.

MANUFACTURER: Dunedin Engineering Co. Ltd.,
73/75 Mortimer Street,
LONDON, W.1.

SEPTEMBER 1962

P.T.O.
EQUIPMENT: TYRE CHANGING

MODEL: Pneumatic Bead Expander.

PURPOSE: To expand the beads of a tubeless tyre onto the wheel rim during inflation.

DESCRIPTION & METHOD: The Bead Expander consists of a sealed neoprene tube, with an air valve at one end, covered in a fabricated nylon sleeve. At the valve end, the sleeve is fitted with 'D' shaped locking rings and the other end forms a tightening strap.

The expander is fitted round the centre of the tyre tread and tightened by threading the sleeve end through the locking rings.

On inflation of the neoprene tube the tyre beads are expanded onto the wheel rim, and once sealed, the Expander is removed by simply turning the collar on the valve which quickly deflates the tube. The tyre may then be inflated to its normal pressure.

SERVICES REQUIRED: Compressed air up to 200 p.s.i.

SUMMARY: The Pneumatic Bead Expander is available in two sizes:

PBE/90 for 13" to 16" and
PBE/120 for 10" to 14" tyres.

INSTALLATIONS: N I L

MANUFACTURER: Apaseal Ltd.,
Bowes House,
HAILSHAM,
Sussex.
**B.M.C. SERVICE LIMITED**

**SERVICE DEVELOPMENT & TECHNIQUE BULLETIN**

<table>
<thead>
<tr>
<th>SERIAL No.</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>FILING REFERENCES</td>
<td></td>
</tr>
<tr>
<td>TIMING MIRROR</td>
<td>2</td>
</tr>
<tr>
<td>DISTRIBUTOR</td>
<td>1</td>
</tr>
<tr>
<td>DEALER</td>
<td>1</td>
</tr>
</tbody>
</table>

**EQUIPMENT:**

MORRIS 1100 ENGINE TIMING MIRROR

**MODEL:**

BO.85

**PURPOSE:**

To enable the flywheel timing marks to be clearly seen when checking or resetting the ignition.

**DESCRIPTION & METHOD:**

To locate the timing mirror the forward bolt retaining the clutch cover inspection plate is removed, and the other bolt slackened enabling the inspection plate to be moved to uncover the aperture.

The mirror tag is slid beneath this bolt, which may be tightened to secure the mirror in position, leaving the operator free to manipulate the engine and electronic test equipment controls.

**RECOMMENDATIONS BY BMC:**

That this timing mirror is made available to any person liable to be entrusted with the ignition testing of these engines.

**SUMMARY:**

This unit is very similar in construction and use to the mirror described in Bulletin No. 8 and is most desirable for static setting of the ignition and essential when a stroboscopic timing light is used.

Painted red to differentiate between the two models, this mirror is well finished and correctly set to give a clear image of the timing marks.

**MANUFACTURER:**

Crypton Equipment Ltd.,
BRIDGWATER,
Somerset.
'Electromaster' Volt-Ampere Tester

To provide the automobile electrician with a portable unit capable of checking the motor vehicle electrical systems.

Housed within a well finished metal case complete with carrying handle are large faced moving coil volt and ammeters.

The Voltmeter is graduated in three scales, covering 0-10, 0-20 and 0-50 Volt ranges and an 0-2 Volt range is available by the depression of a spring loaded switch.

Readings on the ammeter are also shown on three scales, having a 10-0-50 range on the built-in shunt winding or 1-0-8, 20-0-160 and 200-0-1500 amperes using external shunts available as optional extras.

The tester may be used to check and adjust Compensated Voltage Regulators, Cutouts, Relays, Starters, Dynamos and due to the heavy duty variable resistance incorporated it is equally suitable for the full adjustment of Current-Voltage Regulators.

Shown overleaf is an equally neat roller shutter cubical, which is available as an extra, to mount the tester at a convenient working height and to provide storage space for the leads and other electricians' tools.

When testing any circuit this tester has the advantage that both voltage and current flowing can be measured and compared against the vehicle specification.

Height 8½" Width 13½" Depth 9"

WHEEL BALANCING MACHINE.

'DRP' Catalogue No. 54758 (3 Phase)

" " 56586 (1 Phase)

To balance the road wheels of cars and light commercial vehicles.

The wheel to be balanced is affixed by bolts to the wheel mounting flange, alternatively if the flange is left in position upon the machine spindle, centring pins are provided to ensure precise wheel location.

After correct positioning and fastening, the wheel is rotated by means of an electric motor in a forward direction and then a reverse to obtain a double recording of the dynamic unbalance which is shown on a graph behind the panel window. With the wheel at rest, the position of unbalance is determined by turning the wheel so that the graph intersection coincides with an indicator line and the amount of balance weight required is found by reference to a scale.

Magnetic weights are supplied to assist in determining any static out-of-balance.

SERVICES REQUIRED:

Single or Three Phase electricity supply. Voltages to suit local requirements.

SUMMARY:

Strong in design and fairly simple in operation, the machine is capable of balancing the BMC range of wheels, including the ADO15 10" diameter, and giving consistently accurate results.

INSTALLATION:

Four bolts to floor. Connection to mains electricity.

MANUFACTURER:

Laycock Engineering Ltd.,
Victoria Works,
Millhouses,
SHEFFIELD, 8.
EQUIPMENT: CAR WASHING GUN

MODEL: 'Hurricane'

PURPOSE: To provide a powered water jet for removing road grime, mud, etc. from areas such as wheel arches, also for rinsing purposes.

DESCRIPTION & METHOD: The hand gun is first connected to the water mains and compressed air supply. Water output is regulated by turning the control on top of the gun. Compressed air is admitted to the water jet by depressing the air trigger control.

SERVICES REQUIRED: Normal compressed air pressure of 100/150 p.s.i. A water supply pressure of 50 lb. or more is found to be ideal.

SUMMARY: (1) Of strong design, yet light in weight, the gun is well finished and comfortable to handle.

(2) The granular formation of the water produced by the compressed air has shown to be ideal for removing stubborn mud and dirt.

(3) This gun has also given good results when rinsing vehicles engines in situ, i.e. following degreasing, since the water supply can be shut off and the compressed air jet used to expel any excess moisture.

INSTALLATION: \( \frac{1}{4} \)" bore rubber air and \( \frac{1}{2} \)" bore rubber water hose connections are required. Floor drainage in the wash area is also highly desirable.

MANUFACTURER: Kismet Ltd., Fenlake Works, BEDFORD.

JULY 1962

P.T.O.
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: HAND TOOLS

MODEL: Nut Splitter Kit No. EPH/1474

PURPOSE: To enable corroded or damaged nuts to be removed without damaging the thread of the bolt or stud.

DESCRIPTION: Consisting of two cast steel support bodies into which a hardened chromium-molybdenum steel blade is screwed.

The larger body is suitable for nuts up to 9/16" Whit. or 1" A.F. across the flat, with the smaller one dealing with sizes from ½" Whit. or 5/16" A.F. across the flat.

When not in use, these cutters are kept in a neat plastic case.

METHOD: Once it is decided that a nut is corroded to the extent that it cannot be removed by conventional means, the tool is slid over the nut and the cutter screwed in until the blade has cut completely through the offending nut. The gap made by the cutter can then be enlarged to allow the nut to be removed.

LIMITATIONS: New nuts are required whenever this tool is used.

RECOMMENDATIONS BY BMC:
That the tool is held squarely to the nut to prevent damage to the support body.

SUMMARY: The nutsplitter has shown that it is capable of removing most nuts quite easily and has saved many studs and road spring 'U' bolts from being replaced unnecessarily.

CONCESSIONAIRE: E.P. Barrus (Concessionaire) Ltd.,
12-16 Bruneil Road,
LONDON, W.3.

JUNE 1962

P.T.O.
OPTICAL WHEEL ALIGNMENT GAUGE

Twin Beam 'Optiline' 75670

For the measurement of all wheel alignment geometry by the principle of light beam projection.

The complete equipment comprises projector units with clamps and stands, projector screens and framework, rear wheel alignment indicator scales with clamps, turntables and a brake pedal depressor. Also provided is a calibrated testing rod with stands for the periodical checking of the projector accuracy.

By the system of projected light beams, it is possible to determine Caster, Camber and King Pin Inclination angles, Toe-In, or Out, Toe-Out on turns and rear wheel alignment.

The projector clamps incorporate four-point fixing to the rim of the vehicle's wheel also compensating screws so that each projector may be aligned to the hub axis, thereby eliminating wheel run-out and rim distortion.

The projector lamps operate on a 6 volt supply through a transformer connected to a single phase output to suit local requirements.

SUMMARY:

(1) The latest Toe-In/Out scales affixed to the projectors have been calibrated so that complete accuracy is obtained for the size of wheel checked.

(2) Designed to operate ideally in a pit installation or by floor mounting, the Optiline has also been used successfully, in conjunction with a platform-type vehicle lift. In this way, any adjustments required on a vehicle may be performed whilst simultaneously viewing the alteration on the calibrated scales.

(3) Strongly constructed, the equipment is capable of a high degree of accuracy and is suitable for BMC vehicles having 10" diameter rims to 19" diameter.

(4) When familiar with the equipment, the operator is able to quickly diagnose steering or wheel alignment irregularities.

INSTALLATION:

Optional.

MANUFACTURER:

Laycock Engineering Ltd, Archer Road, Millhouses, Sheffield, 8.
EQUIPMENT: PRESSURE RADIATOR CAP & SYSTEM TESTER

MODEL: Catalogue No. JWP 317

PURPOSE: To pressurise the radiator or its cap to establish that it is maintaining and releasing pressure at the correct poundages.

DESCRIPTION: Basically the tool consists of a hand pump, incorporating a pressure gauge graduated in pounds per square inch, three adaptor tubes and rubber spacers which correspond to the various size of necks and caps fitted to our radiators.

METHOD: When checking the cooling system or cap, the tester is located and turned upon the cam to its locked position. The unit is then pressurised by the hand pump introducing air until the required pressure is reached.

Tests on the radiator cap are performed by increasing the pressure until the relief valve operates, which should occur within the zone limits indicated on the dial and approximates to the figure stamped on the cap. Once the relief valve operates, the remaining pressure should be held for approximately 10 seconds, again within the zone.

The cooling system is pressurised to its normal operating pressure and any loss observed on the dial which would indicate a leak and external connections, should be inspected.

RECOMMENDATIONS BY BMC: That the sealing rubber is moistened when using the adaptor tubes to ensure that a perfect seal is obtained between components.

SUMMARY: Simple to use, this tester has proved most beneficial in providing a quick and reliable means of checking the engine cooling system.

MANUFACTURER: J.W. Pickavant & Co. Ltd., Bow Street, Birmingham.

JUNE 1962
EQUIPMENT

AIR IMPACT WRENCH No. W.37

PURPOSE:
To eliminate operator fatigue and cut servicing time and costs.

DESCRIPTION & METHOD:
Powered by compressed air, the tool transmits a series of rotary hammer blows through the standard 3/4" square drive by means of an oscillating action within the head. Reversible in action, this torque is transferred to the nut or bolt to which the tool is applied, with a minimum of reaction to the operator.

LIMITATION:
The tool is unable to produce precise torque readings on nuts or bolts, however, incorporated in the handle of the wrench is a device for regulating the air supply and by continual use, the operator is able to assess the torque required within reasonable limits.

SERVICES REQUIRED:
Compressed Air at 80 P.S.I.

SUMMARY:
Timesaving is achieved on all operations to which the equipment is applied and is considerable in many instances.

Operator fatigue and effort whilst using conventional hand tools is eliminated where impact wrenches are used.

Robustly constructed to withstand rough handling and hard usage, the air motor requires a minimum of maintenance and volume of compressed air.

INSTALLATION:
N I L

MANUFACTURER:
Thor Tools Ltd.,
34 Victoria Street,
Westminster,
LONDON, S.W.1

JUNE 1962
EQUIPMENT: PNEUMATIC VACUUM CLEANER

MODEL: 'Air-O-Flow' Model 'G'

PURPOSE: For vehicle interior cleanliness.

DESCRIPTION & METHOD: The suction unit is mounted upon a debris container 16" high x 11" diameter and the assembly is affixed to a stand fitted with three caster wheels for mobility. Overall height is 23\(\frac{1}{2}\)" and total unit weight is 14\(\frac{1}{2}\) lbs.

Operation is by connection to compressed air supply and actuation of the trigger mechanism, located above the suction unit. Air is consumed at the rate of 9 cu. ft. per minute whilst the unit is in operation and there are three interchangeable nozzles provided for use at the end of the flexible hose.

SERVICES REQUIRED: Compressed air at 80 p.s.i. minimum.

SUMMARY:

1) Good suction powers are obtained with this unit, sufficient to extract dust, stones, broken glass fragments and small bolts or nuts.

2) The prevalent 'hiss' usually associated with the emission of compressed air has been well subdued in this model and is kept well below annoyance level.

3) Mobility of the unit is good although care must be taken in positioning the cleaner, to avoid tipping, when reaching and extending the hose to awkward corners of a large vehicle.

4) The lack of moving parts cuts maintenance costs and there are no dangers from trailing electrical leads especially when being used outdoors.

INSTALLATION: N I L

MANUFACTURER: Exhall Grinding & Engineering Co., Ltd., Buryton Road, Exhall, Coventry.

MAY 1962
EQUIPMENT: HAND-OPERATED EMBossING TOOL.

MODEL: 'Dymo-Mite' Tapewriter

PURPOSE: To provide immediately, permanently embossed labels in a variation of coloured backgrounds for identification purposes.

DESCRIPTION & METHOD: The desired tape is loaded into the magazine and the cover closed. The tape is fed forward between two guide rollers until adjacent with the start line.

To achieve economy, the tape is fed back two notches and it is then ready for embossing. For printing, the desired letters or numerals are dialled and the handle firmly squeezed. The actual size of the lettering is shown on the illustration.

A small thumb-operated guillotine is provided to sever the tape on completion of printing.

In the case of adhesive tapes, the surface to which the label is to be applied, must first be clean of oil, grease, or dirt, to ensure a good bond.

SUMMARY Of strong design, the tool is precision built and has a chromium plated finish throughout.

Straightforward in use, the results obtained from the machine have been of a consistently high quality, the printing being clearly legible at all times.

When used for labelling binning in parts stores, the coloured tapes provided quick identification between different types or makes of components.

With the variety of tapes available for inside and outside use there must be innumerable applications for the equipment.

CONCESSIONAIRE: Hellermann Ltd., Crawley, Sussex.

STOCKISTS: Rotherfield Plant Hire Ltd., North Street, Rotherfield, Crowborough, Sussex.

JUNE 1962
EQUIPMENT: VEHICLE SUPPORT STAND
MODEL: Light Duty High Service Support.

PURPOSE: To support motor cars or light commercial vehicles when raised.

DESCRIPTION & METHOD:
These stands are primarily intended for use in conjunction with the manufacturer's own twin post lift (Bulletin No. 12), but can be used to advantage with most twin post or wheel free lifts.

When used with a lift or hoist, the vehicle is raised a little above the height required, the stand is then placed beneath a suitable chassis member, adjusted to a convenient height and the vehicle lowered onto the stand, leaving the underside completely clear.

With the vehicle supported, the axle or sub-frame assembly can be lowered for repair.

RECOMMENDATIONS BY BMC:
That the stand is only used on a hard smooth surfaced floor.

SUMMARY:
(1) The minimum height of the stand is 47 inches which can be increased in 12 steps by simply lifting the centre support and inserting a pin until the maximum height of 70 inches is reached.
(2) A small square tray mounted between the support legs is useful for holding small components or tools.
(3) The maximum safe working load is rated at one ton, with the stand resting on a level surface.

MANUFACTURER: Kismet Ltd., Penlake Works, BELFORD.

MAY 1962
EQUIPMENT: SPOT WELDING UNIT

MODEL: Monoflex

PURPOSE: For use when repairing or replacing damaged bodywork panels, etc.

DESCRIPTION & METHOD: The kit comprises a portable transformer in a sheet metal case with handle, 20 ft. of lead-in cable, output cables to the welding head which is fitted with 6" copper welding arms, and arms up to 14" throat are available.

Available as an extra are twin prod attachments for the purpose of spot welding when one side of the metal only is approachable.

CAPACITIES: Spot Welding Gun: Two pieces of 20 SWG, 18 SWG or 16 SWG. Twin Prod Attachment: 22 SWG or 20 SWG.

SERVICES REQUIRED: 400/450 V; 50 Cycle AC Mains also 200/250 V; (Other voltages to order).

LIMITATIONS: The disadvantage of a heavy transformer unit has been overcome to a great extent by the introduction of a mobile trolley available as an extra.

The length and weight of the cables between transformer and welding head, which govern the output of the unit, restrict movement when work is to be carried out on roof panels or within the vehicles.

RECOMMENDATIONS BY BMC: That provision be made for the height of the transformer trolley to be raised when required, which would ease the above problem.

SUMMARY: With the various attachments and adaptors all body spot-welding requirements can be covered by the set.

Well finished and of robust construction, the unit is capable of producing good quality results and strong welds.

Adequate spot welds have been achieved of 3 sec. duration and this time must not be exceeded to prevent overheating of the gun and handles.

INSTALLATION: NIL

MANUFACTURERS: Triangle Products Ltd., Manchester Road, Hyde, Nr. Manchester.

MAY 1962
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: HYDRAULIC BRAKE SERVICING UNIT
MODEL: J.A.C. 50 H.P. Tester
PURPOSE: For testing the hydraulic lines and Regulator Valve operating pressures.
DESCRIPTION & METHOD: The test instrument is swivel mounted on a large metal clip, which may be attached to any convenient point on the body or chassis members.

In place of the normal wheel cylinder bleed screw, is located an adaptor over which an 'O' ring banjo union is slid, thus connecting the system to the gauge by a 2 foot length of reinforced hose.

Before testing any hydraulic system, it is essential to 'bleed' the line and provision has been made for this at the base of the gauge.

TESTING: General leak tests are carried out by applying the foot brake until a line pressure of 800 p.s.i. is indicated on the gauge and this is held for a period and any loss of pressure observed and brake lines inspected.

A master cylinder check is made at a lower pressure to test the efficiency of the main seal.

The presence of dirt, sludge, internally swollen flexible hoses and main seals or restrictions along the line, will be detected by slow recuperation shown on the gauge as the brake pedal pressure is released.

The operation of the regulating valves fitted to the "Mini" range of vehicles, Austin Wolfesley and Vanden Plas cars fitted with disc brakes, can readily be checked for correct operation by observing the maximum pressure along the rear brake line.

RECOMMENDATIONS 1. That protective jaws are fitted to prevent damage by the clip when attaching to a motor vehicle paint or chrome work.
2. An adjustable pedal depressor is used to maintain the pressure during the general pressure check.

SUMMARY: With this tool, much time can be saved in accurately diagnosing defects in normal and servo assisted braking systems.


APRIL 1962
To check toe-in and toe-out on all types of vehicles having a minimum of 8" diameter rims to a maximum of 24" diameter.

The gauge consists of two separate horizontal bars, supported on legs, which are placed either side of the vehicle, pointers connect the gauge to the road wheel rims or tyre walls.

On the end of one bar is affixed a pivoted ‘view-box’ incorporating a thin vertical datum line, together with a reflector plate. The other bar has a mirror built on to its end.

When checking alignment, the vehicle’s wheels are brought forward into the straight-ahead position and the pointers set in contact with the road wheel rim or tyre wall. The operator peers through the viewing tube and pivots the ‘view-box’ until the reflected image of the vertical datum line coincides. In doing this, a pointer is moved which indicates the angle turned, on a calibrated scale.

A circular calculator dial is provided so that the angle may be converted to read the amount of toe-in/out in inches or millimetres.

The gauge is suitable for the complete range of BMC cars and commercial vehicles including the front wheel drive ADO.135 range, also it is adaptable for the measurement of toe-in/out on rear wheels.

The latest model gauge which is proved with a greater variation of the vertical position of the pointers in contact with the road wheels is a marked improvement.

Dunlop Rubber Co. Ltd., Fort Dunlop, Birmingham, 24.
ITEM: FLOOR CLEANER

MATERIAL: 'Basol 77'

PURPOSE: To effectively clean concrete floors

DESCRIPTION: This non-toxic, non-corrosive and non- caustic floor cleaner has been most popular not only for the results obtained, but also with the operators, as there is no offensive smell.

It has been found that after a few applications, the mixture strength can be reduced as 'Basol' forms a seal against oil and grease.

This cleaner is also germicidal, so there are no contamination hazards in disposing of it into the drains.

METHOD OF APPLICATION: According to the state of the floor, dissolve between 6 and 8 ounces of these crystals into each gallon of hot or boiling water.

Pour the prepared liquid onto the area to be cleaned and scrub with a stiff broom, where badly stained.

Two to three minutes are generally sufficient for the solution to have cleaned a badly contaminated area before being hosed or swilled off with cold water.

LIMITATION: This mixture strength must not be used on painted concrete floor areas.

SUMMARY: This material has proved highly effective in cleaning concrete floors of motor vehicle workshops, but to clean painted floor areas, a very weak solution is essential as advised by the manufacturer.

MANUFACTURER: Basol Ltd.,
12 Bolton Street,
LONDON, W.1.

April 1962
EQUIPMENT: TOWING AMBULANCE
MODEL: Self Loading
PURPOSE: To tow a disabled vehicle to a Service Station.
DESCRIPTION & METHOD: Once hitched to any suitable vehicle, the ambulance is placed immediately in front of the vehicle wheels to be raised and the ramps attached by the insertion of single anchorage pins.

Along the towing shaft is a winch, incorporating a wire cable and stout metal clip which is attached to the disabled vehicles towing eye or suspension member to enable it to be pulled onto the ambulance.

When the wheels are settled into the Wheel Cradles, the top Swivel Location Pin is removed and the ramps are detached and stowed in the towing vehicle. Retaining Chains are then placed around the vehicle wheels and attached to the Cradles, thus firmly securing the vehicle while being towed.

LIMITATIONS: (1) Only suitable for the recovery of vehicles which are able to be wheeled or slid up the loading ramps,
(2) Towing ambulance capacity with pneumatic tyres 1 ton.

RECOMMENDATIONS BY BMC Have resulted in several detailed modifications being incorporated making the unit easier to use and suitable for the BMC 'Mini' range of vehicles.

SUMMARY: (1) Adjustable to accommodate vehicles of Track width from 45 to 60 inches,
(2) An aluminium packing block is included, for insertion beneath a flat tyre to ensure correct clearances while loaded.

This ambulance has proved very satisfactory with our range of passenger cars and light commercial vehicles, and has the advantage that it can be used with any vehicle equipped with a towing eye attachment.

MANUFACTURER: Harvey Frost & Co. Ltd.,
Barnsley Road,
BISHOPS STORTFORD,
Herts.

April 1962
EQUIPMENT: HEADLAMP ALIGNMENT GAUGE
MODEL: 'Beamssetter'
PURPOSE: For checking and adjusting headlamp beams to obtain correct angular disposition.
DESCRIPTION & METHOD: The light measuring unit is mounted upon a tubular framework which is designed to cater for varying headlamp height. Mobility about the workshop is attained by three caster wheels.

To commence a check or adjustment, the complete unit is wheeled to the vehicle and the centre height of the cell unit affixed to correspond exactly to the centre of the headlamp lens.

A wheel-mounted base bar is placed in contact with the vehicle's front wheels and the framework positioned to touch, thereby aligning the gauge with the straight ahead position of the vehicle.

With the headlamps switched to the 'high' beam and the lever set to angle of beam projection required, the headlamp adjusting screws are turned accordingly so that the highest candlepower reading is obtained on the gauge dial.

SERVICE REQUIRED: N I L

SUMMARY:
(1) To cater for vehicles with varying overhang, different lengths of the framework arms are supplied so that the face of the Beamssetter gauge may, at all times, be the correct distance from the headlamp lens.
(2) Satisfactory results have been obtained at all times from the equipment which is straightforward in operation and suited to all BMC models.

INSTALLATION: N I L

MANUFACTURER: Joseph Lucas Ltd., Great Hampton Street, Birmingham, 18.
B.M.C. SERVICE LIMITED

SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: STATIC ROLLER BRAKE TESTER

MODEL: 'Dynamic'

PURPOSE: To enable the brakes of a vehicle to be tested within the Service Station, also as a diagnosis instrument to establish the condition and efficiency of individual brake drums or discs.

DESCRIPTION & METHOD: The equipment comprises two sets of bonded grit-coated rollers which are driven by individual motors through two heavy reduction gearboxes.

With the front or rear wheels of the vehicle upon the rollers the motors are started and the rollers driven at a constant speed.

Application of the vehicle's foot brake in conjunction with a brake pedal pressure meter causes the retardation figures of each wheel to be recorded upon hydraulically operated meters, which incorporate a maximum recording needle.

LIMITATIONS: The machine does not take into account the transfer of weight from rear wheels to front wheels when the car is braked on the road. Limited to vehicles weighing up to 10,000 lbs., this will cater for the range of BMC cars and light commercial vehicles.

SERVICES REQUIRED: Voltage 400/440 A.C., 3 phase, 50 cycles, (non-standard motors available).

SUMMARY:

1. The brake tester has proved to be entirely satisfactory for the light weight range of BMC vehicles and has shown to be quick at pointing out any faults, such as oily linings, brake drag or warped drums, not indicated clearly on a road test.

2. The 'Pedopress' brake pressure meter included in the Kit is ideally suitable for obtaining balanced pressure at front and rear wheels.

3. A control desk to incorporate the meter units is illustrated overleaf and available as an extra and forms a neat arrangement within which the circular efficiency calculator and records are housed.

INSTALLATION: Excavation area is 7' 2" deep x 2' 3" x 8' 8".

MANUFACTURER: Triangle Products Ltd., Manchester Road, Hyde, Nr. Manchester.

MARCH 1962

SERIAL No.
FILING REFERENCES
BRAKE TESTER 4
DISTRIBUTOR 1
DEALER 1
B.M.C. SERVICE LIMITED

SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: TYRE CHANGER

MODEL: Pneumatic

PURPOSE: To speed the tyre changing operation.

METHOD & DESCRIPTION:

The wheel is placed centrally upon the circular rubber faced platform on the stand. A split locking cone clamp is fitted to the spindle and the foot operated air valve depressed, which draws the spindle downwards, automatically centering and locking the wheel.

The bead breaker claw is offered to the lower tyre bead and the lever raised to break the bead seal. By placing the bead breaker over the centre spindle, the top bead can be broken in a similar manner.

To remove the tyre from the rim, the demounting lever is inserted under the bead and rotated about the centre spindle.

Replacement of the tyre is carried out with the aid of the rollers on the mounting arm over the spindle, which is adjusted to the size of the wheel.

SERVICES REQUIRED:

Compressed Air 20 - 180 p.s.i.

RECOMMENDATIONS BY BMC:

Have resulted in a modified bead breaker being introduced making the machine suitable for 10" wheels.

SUMMARY:

1. The machine is capable of dealing with tubeless and conventional tyres from 10" to 18" rim size.

Much time and effort are saved on all tyre changing operations and tyre damage eliminated by the use of this robustly constructed machine.

INSTALLATION:

Four bolts grouted to the floor.

MANUFACTURER:

Messrs, Tip Top Vulcanising Products, 330 Kennington Road,
LONDON, S.E.11.
EQUIPMENT: LUBRICATION HOSE REELS
MODEL: Tecalemit Cabinet Mounted

PURPOSE: To dispense air, water, lubrication or penetrating oils and grease to a motor vehicle.

METHOD & DESCRIPTION: Housed within a flat cylindrical drum of 22" in diameter is an 18' 6" length of flexible reinforced hose, to which end nozzles and valves are attached according to the type of service supplied.

A quadrant incorporated within the winding mechanism enables a 3' length (approximately) of hose to be extracted before the ratchet operates over a further 22" of hose movement, after which the process is repeated.

Control of the hose is smooth and there is no snatch when automatically rewinding which is accomplished by pulling the hose beyond the ratchet mechanism and feeding this toward the drum.

Six outlet guide rollers radially disposed enables the hose to be pulled from any angle without undue strain being imposed.

SERVICES REQUIRED: Compressed air at 125-150 p.s.i. for air supply and operating lubrication supply pumps. Mains water supply.

SUMMARY:
(1) With the lubrication reels illustrated, hose end metering units are fitted, keeping the floor area in the region of lubrication bay free from obstruction and thus permitting two vehicles to be serviced simultaneously from the same bank of equipment.

(2) When wall mounted, it is often more convenient to use metering units situated beneath the reels as these also measure total throughput of lubricant in addition to individual deliveries.

These individual units are reliable in operation and suitable for floor, wall or ceiling mounting and any number may be added to form a neat installation without upsetting the general presentation.

INSTALLATION: Connection to Mains, Storage Tanks or Drums.

MANUFACTURER: Tecalemit (Engineering) Ltd., Plymouth, Devon.
EQUIPMENT: MOBILE WORK BENCH

MODEL: "Norfolk" Retractable Wheel

PURPOSE: To enable engineers to transport their tools, equipment and a 'working surface' about the workshop to vehicles which cannot be moved.

DESCRIPTION: Having a welded angle-iron construction, the workbench top and shelves are made from 16-G. Galvanized sheet steel.

Mobility is obtained by four 6" x 1½" rubber wheels which, when lowered, lift the bench legs clear of the ground as illustrated.

When the Bench is required to be worked upon, the wheels are raised by means of a lever allowing the legs to rest upon the floor.

SERVICES REQUIRED: N I L

SUMMARY: The size of the Bench used was 3' x 2' and together with the space available in the drawer, shelf and lockable cupboard has proved quite adequate for containing the normal quantity of handtools used by the workshop mechanic.

The strong construction of the Bench is capable of withstanding rough use.

INSTALLATION: N I L

MANUFACTURERS: J. Abbey Ltd., 123 Brandon Road, Walton, NORFOLK.

FEBRUARY 1962
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: BODY REPAIR EQUIPMENT
MODEL: Hydraulic "Porto-Power"
PURPOSE: To return distorted body panels or framework to their correct position.

DESCRIPTION & METHOD: Basically the set consists of a hydraulic pump and a six foot length of reinforced hose, to which any combination of hydraulic pull or push ram, extension bar, spreaders and adaptors may be quickly connected.

With these units it is possible to move by pulling, pushing, lifting, pressing or clamping virtually any motor vehicle component.

Used chiefly to reform the chassis frame or body panel of a vehicle which has suffered accidental damage, direct pressure is generally applied in the opposite direction to which the damage occurred, using the nearest convenient body member to support the ram.

By this method the correct body or frame contour can usually be obtained in a very short time, often saving unnecessary dismantling of body components, cutting and re-welding.

SERVICES REQUIRED: NIL

RECOMMENDATIONS BY BMC: That a selection of shaped hardwood blocks are cut so that the ram pressure may be applied over a larger area.

Also that a trolley is made available to enable the equipment to be neatly stored and easily moved within the workshop, such a trolley in the form of a bench is available from the manufacturer.

SUMMARY: (1) According to the volume and type of repair normally undertaken, so the set is selected, as the multiplicity of available components would make a complete kit a little cumbersome in the smaller workshop. Illustrated overleaf is a suggested set suitable for motor vehicle body repair which have been placed in a trolley 3' 6" x 2'.

(2) The possible applications of this equipment are far too numerous to mention, but wherever direct pressure is required, this hydraulic set is normally capable of being adapted to meet that need.

JANUARY 1962
PLASTIC FLOOR MARKING TAPE

Scotch Brand Plastic Film Tape No. 471.

A semi-permanent means of marking the workshop area which is not easily obscured by oil and grease.

When the area to be marked out is clean and dry, the tape is carefully laid (not stuck) in the position required and allowed to shrink until all the extension imparted in pulling it from the roll has been compensated for, before being finally adhered to the floor.

The surface to which the tape is applied must be smooth to ensure good adhesion.

SUMMARY:

(1) This tape can be produced in any width from 1" - 27" in Black, Blue, Red, Yellow and White, the length of each roll being 36 yards.

(2) For floor marking, the 2" width is ideal as it may be laid in straight lines or gradual curves to indicate direction of travel.

(3) After many months service, the ends show no signs of lifting and the only places where failure has occurred have been due to uneven surfaces which have worn holes through the tape or where a car has spun its wheels directly on the tape.

(4) Any section or part section can be replaced individually and once stuck in position can be used immediately.

(5) The detergent used for cleaning the floor is sufficient to keep the tape clean and easily visible.

This plastic tape has proved entirely satisfactory for quickly marking out all of the Workshop area.


MINNESOTA MINING & MANUFACTURING CO., LTD.
INDUSTRIAL VACUUM CLEANER

Socomak Standard Car Valet No: 256

To clean the interior of motor vehicles

This electrically operated vacuum cleaner has a strong suction through a 15' length of 1½" inside diameter flexible hose.

In a smoothly finished cylindrical sheet steel drum there is a combined dust collection and suction unit capable of removing the majority of dust and stones which inevitably accumulate within a motor vehicle.

Fragments of toughened glass can be readily removed, ash trays emptied in situ and crevices easily reached by a slender nozzle, whereas larger areas may be cleaned with a 4½" wide suction nozzle and brush or a 2½" angled bellmouth nozzle which are also included.

The quickly detachable dust bag is of sufficient size that it only required emptying once during a normal days cleaning when used on saloon cars.

Among the refinements incorporated within this cleaner is a rubber rail to prevent damage to the coachwork and safety chains to stop chafing and scratching of the hose.

SERVICES REQUIRED: Electricity 100/110, 200/250 Volt, A.C./D.C.

SUMMARY:
1. Mounted on four ball bearing rubber swivel castors, the unit can be easily moved about the workshop, showroom or office.
2. Additional lengths of hose are available together with a connector for places where it is not convenient to take the cleaning cylinder.

SIZE:
Height 32" x 16" diameter cylinder.

MANUFACTURER:
Service Electric Co. Ltd., Honey Pot Lane, STANMORE, Middlesex.
EQUIPMENT

UNDER VEHICLE CREEPER

MODEL:
Gocoanda Car Creeper

PURPOSE:
To support and enable motor mechanics to move about more easily under vehicles.

DESCRIPTION:
This creeper is suitably moulded to give adequate support to the body, head and shoulders.

Moulded into the base are tool recesses capable of carrying a selection of tools or components.

The design is such that arm movement is completely unrestricted and can be easily manoeuvred while in use due to the ball bearing castors.

LIMITATIONS:
As with most mobile laying down boards this is liable to move unless the operator braces himself when applying excess pressure.

Due to the low ground clearance this is really only suitable for use on smooth Workshop floors.

SUMMARY:
1. Being made of Polyester resin, reinforced with glass fibre it is very robust and is able to withstand harsh treatment in the Workshop.

2. This creeper is obtainable in red, green, blue, yellow, black or white and can be easily cleaned as its smooth surface is impervious to petrol, oil and water.

SIZE:
Overall length 44", Width 20", Height 39"

MANUFACTURER:
Peasmarsh Reinforced Plastics Ltd.,
Peasmarsh, Guildford, Surrey.
EQUIPMENT: ENGINE TUNING
MODEL: Motormaster Model BCA 60
PURPOSE: To establish instrumentally that the engine is performing satisfactorily and corresponding to the manufacturer's recommended specification.

DESCRIPTION & METHOD: Incorporated within this portable unit is a vacuum/fuel pressure gauge, a combined tachometer, voltmeter and dwellmeter, and an ignition advance and output meter.

With these, checks may be carried out quickly and in logical sequence, enabling the value of the engines electrical systems and general mechanical condition to be easily ascertained.

There are only five electrical test leads and a vacuum pipe to be connected to enable the seven individual tests to be performed.

Among the important items, which are clearly depicted, are the exact point of ignition, automatic and vacuum advance and the average distributor cam dwell angle while the engine is running.

Overall checks of the carburation, ignition, charging and starter circuits establish if these are performing satisfactorily or enables them to be individually analysed as necessary.

The vehicle battery only, as the unit incorporates its own dry cell battery.

SUMMARY: (1) The Motormaster is equally suitable for 6 or 12 volt systems
(2) A neat mobile cubicle is available which brings the tester to a convenient height for working on the vehicle and enhances the presentation of the service.

HEIGHT 14" excluding handle. Width 8". Length 22".

MANUFACTURER: Crypton Equipment Ltd., Bridgewater, Somerset.

DECEMBER 1961
EQUIPMENT: WHEEL BALANCING MACHINE

MODEL: Replex - Motor Car

PURPOSE: A mobile means of correcting any out of balance of the road wheel assembly while it is on the vehicle.

METHOD & DESCRIPTION: The wheel to be checked is raised clear of the ground and an electrical pick-up is located beneath the suspension king pin or axle. With the cabinet facing the wheel and the electric motor revolving against the tyre, the wheel is spun to a little above the equivalent of the road speed at which unbalance occurs.

Moving the motor away from the tyre, the wheel begins to slow down and a maximum out of balance reading is obtained on the meter.

With the stroboscopic light switch depressed the wheel will appear stationary with the heaviest point at the six o'clock position, a correcting weight is placed diametrically opposite this point when the wheel is stationary which will correct the kinetic out of balance.

A similar check is carried out with the pick up placed transversely against the brake backplate to ascertain the dynamic unbalance, which may then be corrected.

SERVICES REQUIRED: Electricity 200-250 Volt A.C.

RECOMMENDATIONS BY BMC:

1. The lip of the tray containing spare weights should be increased in height at the handle side to prevent weights falling out during movement about the workshop.

2. That a longer handle is introduced on the driving motor which would greatly assist its mobility.

SUMMARY:

1. A steering wheel clamp is available to prevent the steering wheels turning away during the dynamic unbalance tests.

2. When checking the driving wheels the engine is used to revolve the wheels.

This equipment has proved to be most effective in correcting steering troubles caused by the wheels being out of balance and has the advantage that any wheel hub or brake drum unbalance is also taken into account.

MANUFACTURERS: Replacement Parts (Australia) Ltd.,
58 St. James's Street,
LONDON, S.W.1.

DECEMBER 1961
EQUIPMENT: OPTICAL WHEEL ALIGNMENT GAUGE.

MODEL: Optoflex

PURPOSE: For the measurement of steering geometry and all wheel alignment checks.

METHOD & DESCRIPTION: The equipment comprises optical projectors which fasten to the road wheel rim of the vehicle to be checked, wall charts, wheel turntables, alignment gauges and brake pedal depressor.

Checks that can be carried out by the equipment include Camber and Caster angles, King Pin Inclination, Toe In/Toe-Out for front and rear wheels, rear axle alignment and Toe-Out on turns.

Adjustment is provided to allow for wheel rim distortion or run-out.

SERVICES REQUIRED:

RECOMMENDATIONS BY BMC: The projector bulbs operate on a 12 volt current from a transformer connected to 300-240 volt A.C. supply.

Although built to withstand damage from quite severe mishandling, the projectors could be supplied with a simple guard to prevent its fall when operating the equipment in a pit installation or on a platform lift.

SUMMARY: Well manufactured and of good appearance, the equipment is capable of carrying out the above operations with complete accuracy and in a short space of time.

Designed to operate ideally in a pit installation or by floor mounting, the Optoflex has also been used successfully in conjunction with a platform-type vehicle lift. In this way, any adjustments required on a vehicle can be performed whilst viewing the alteration on the wall chart.

INSTALLATION: Optional

MANUFACTURER: V.L. Churchill & Co., Ltd., Great South West Road, Bedfont, Feltham, Middlesex.
EQUIPMENT: BATTERY TESTER
MODEL: "Speed Tester" AT.44
PURPOSE: To determine the internal condition of the battery in any state of discharge.

METHOD & DESCRIPTION: The first test is to establish how the battery will react under load. To do this a load of approximately three times the total ampere capacity is applied for 15 seconds which is accurately timed by a vacuum switch.

At the end of this period the state of charge is indicated on red or green coloured zones on the capacity meter. Only if the meter reads in the red or sulphated zone will further tests be necessary.

The second test is carried out while the battery is being fast charged at 75 amperes for a 6 volt or 40 amperes for a 12 volt model. After 3 minutes the test meter pointer shows the condition of the coloured zones.

It is then necessary to find the variation in voltage between each cell using the leads and volt meter incorporated.

From this information, a simple table on the machine indicates if the battery is suitable for fast or slow charging, is worn out and requires replacement, or would be serviceable for a short period if given a slow charge.

LIMITATIONS: A fast battery charger capable of high output, must be used in conjunction with the tester, if the second test is necessary, an example of which is shown in Bulletin No. 29.

This machine is only suitable for testing batteries of up to 60 ampere hour capacity which covers the majority of passenger car and light commercial vehicles.

SERVICES REQUIRED: None for tester, but mains electricity for Charger.

SUMMARY: 1. This tester is extremely reliable in accurately diagnosing the battery condition and has the advantage that this may be obtained within 4 minutes and has been approved by most of the major battery manufacturers.

INSTALLATION: NIL

MANUFACTURERS: Crypton Equipment Ltd., Bridgewater, Somerset.
EQUIPMENT: SPARKING PLUG CLEANING MACHINE

MODEL: F.800 X

PURPOSE: To clean and test the serviceability of sparking plugs.

METHOD & DESCRIPTION:

The rubber adaptor disc is selected and located over the cleaning chamber.

Each sparking plug in turn is pushed through the disc and oscillated, while the single operating lever is pressed to "Abrasive Blast" for 3 - 5 seconds.

The lever is then moved to "Air Blast" which directs a jet of compressed air over the electrodes, thus cleaning away the abrasive particles.

When clean and adjusted correctly, the serviceability of the plug is tested by screwing it into the compression chamber.

The high voltage lead is attached to the plug and the Test Gauge dial moved to correspond with the spark gap. With the "ignition" button depressed the air pressure is raised until the spark goes out or misfires. The pressure is then reduced to give a steady spark. At this point the corresponding section on the gauge indicates the sparking efficiency of the plug.

SERVICES REQUIRED:

Electricity 110-115 or 200-250 V, 50-60 Cycle A.C.
Air at 120 - 160 p.s.i.

SUMMARY:

Adaptors to suit 10, 14 and 18 m.m. sparking plugs, a mounting tray and tin of abrasive are supplied with the Service Unit.

For cleaning sparking plugs used on BMC car and commercial vehicles this machine performs very satisfactorily.

SIZE:

Height 41" Width 20" Depth 15"

INSTALLATION:

Connection to air and electrical supplies only.

MANUFACTURER:

Champion Sparking Plug Co., Ltd.
FELTHAM, Middlesex.

NOV, 1961
SERIAL No. 30

HEADLAMP ALIGNMENT

MODEL: KIT 311 "Multicell" Headlight Tester

PURPOSE: For checking or the adjustment of headlamp alignment.

METHOD & DESCRIPTION: Designed to operate close up to a vehicle approximately 6 - 18 inches, the tester incorporates a four-cell photo-electric cell unit with high-low, left-right aiming meters and candlepower meter on the front of the tester.

This unit slides upon rails for traversing from one headlamp to the other.

The vehicle to be tested is positioned approximately 90° to the Tester and the Cell unit "squared" with the vehicle.

SERVICES REQUIRED: N I L

OPERATIONAL TIME: Average times for all B.M.C. vehicles equals thirteen (13) minutes for checking and adjustment and four (4) minutes for checking only.

RECOMMENDATIONS BY B.M.C.: That a guide rail or line is placed perpendicular to unit rail to assist positioning of vehicle.

SUMMARY: The aiming dials can be set so that the headlamp beam may be adjusted to a predetermined aim.

The machine has given consistently accurate results throughout its service and the instruments incorporated are designed so that the job may be completed speedily whilst, at the same time, limiting the margin of error.

INSTALLATION: The guide rails require fixing to the floor

MANUFACTURER: Kismet Ltd., Magna Works, Bedford.

NOVEMBER 1961
MOBILE BATTERY CHARGER

Chargemaster AD.40 Mk.2

PURPOSE:
A safe means of charging the battery on or off the vehicle.

The machine is wheeled to the vehicle, its power cable connected to the mains supply and the heavy duty charging lead clamps connected to the battery terminal post.

To protect the battery against overheating during charging a thermostat control is incorporated and is inserted into one of the centre cells.

Switch on the mains supply, ensure the internal cooling fan is operating and switch to the desired position for fast or slow charging or engine starting.

SERVICES REQUIRED:


OPERATIONAL TIMES:

Vary according to battery condition, but are usually between 30 and 60 minutes.

RECOMMENDATIONS BY B.M.C:

That a warning strip is placed on the machine to emphasize the importance of cleaning the thermostat upon its removal from the battery to prevent accidental acid damage to vehicle bodywork.

SUMMARY:

1. This charger is equally suitable for 6 or 12 volt systems.

2. When several batteries are to be slow charged in the workshop, up to ten batteries may be connected in parallel.

3. Fast charging may be safely carried out on fairly new discharged batteries.

4. Even commercial diesel engines can be easily started by connecting to the mains supply.

The Chargemaster is very popular with the operators due to its mobility and simplicity of operation.

INSTALLATION:

Connect only to mains supply.

MANUFACTURER:

Crypon Equipment Ltd., Bridgwater, Somerset.

OCTOBER 1961
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: ENGINE/GEARBOX STORAGE RACK
MODEL: Rotarok Twin Rotor

PURPOSE: To store power units or other bulky components neatly in the minimum amount of space, but with easy accessibility.

METHOD: The parts to be stored are loaded upon specially designed bases - to suit individual units - and then placed in the platform locations.

The lowest platform may be loaded and unloaded by the hand trolley used for transporting the components in the workshop, but for the higher platforms a hoist mounted on an overhead gantry is used.

LIMITATIONS: Engines not exceeding 600 lbs.
SERVICES REQUIRED: Nil - Except if a power operated hoist is required.
RECOMMENDATIONS BY B.M.C: Have brought about the re-design of certain support struts making loading and removal easier.

SUMMARY: 1. Each rotor storing 32 units can easily be rotated by hand, thereby simplifying selectivity.
2. The complete unit has performed satisfactorily following slight modifications incorporated to comply with the Factories Act.

Handling of the heavy engine units and gearboxes has been greatly simplified and the excellent accessibility available is a considerable time saving factor.

INSTALLATION: Bolts grouted to floor and bolted to overhead gantry.

MANUFACTURER: Truepoint Motor Accessories Ltd.,
106, Lower Ashley Road,
BRISTOL, 2.

OCTOBER 1961
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: INSPECTION TORCH

MODEL: Can and Barrel Searcher

PURPOSE: A safe means of illuminating the interior of petrol tanks.

METHOD AND DESCRIPTION:

To operate the base switch is pressed and locked by turning it in a clockwise direction, the flexible tubing is then placed in the desired position to fully illuminate the area required.

LIMITATIONS:

Batteries Three 1.5 volt
Weight 3½ lbs.

RECOMMENDATIONS BY B.M.C.: The torch should be stored hanging from the metal ring to prevent accidental operation of the switch.

SUMMARY:

This torch is finished in good quality chromium plating and we are assured that it has been approved by the Factory Department for use in the vicinity of petroleum and acetone vapours.

The distance from the lamp to the torch body is 26" and its maximum diameter is 1", which enables many places to be inspected which are otherwise virtually inaccessible.

Although primarily intended for searching petrol tanks this torch has proved extremely useful for a variety of inspection and repair jobs including searching behind facia and door panels; inside enclosed machinery and long cylinder bores; due to its almost shadow free light.

MANUFACTURER: Geag Limited, Barnsley, Yorkshire.

OCTOBER 1961
B.M.C. SERVICE LIMITED
SERVICE DEVELOPMENT & TECHNIQUE BULLETIN

EQUIPMENT: VEHICLE WASH

MODEL: 'Merlin' High Pressure Wash

PURPOSE: For the cleansing of all types of vehicles.

METHOD & DESCRIPTION: Comprising a pump unit, hoses and guns, upon switching on the motor, water is available at 375 lbs. p.s.i. and adjustment of the hand gun varies the water output from a penetrating jet to a fine atomised spray dependent upon requirements.

Overhead or wall fixing Swing Arms are available for the hoses according to suitability, also a detergent dispenser can be fitted between the pump unit and the gun.

SERVICES REQUIRED: Mains water with a minimum output of three gallons per minute.

Models available to suit 3 phase, single phase or D.C. voltage.

SUMMARY: The machine has given satisfactory results in use when washing vehicles, the penetrating jet is particularly suitable for removing mud and road grime from the lower parts of the vehicle body such as wheel arches, etc.

In this aspect, the Washer has proved to be ideal as a preliminary wash for vehicles prior to their introduction to the workshop for repair work.

INSTALLATION: Water drainage required also connection to electric and water supply.

MANUFACTURER: Laycock Engineering Ltd., Victoria Works, Millhouses, SHEFFIELD, S.

OCTOBER 1961 P.T.O.
EQUIPMENT: Wheel alignment gauge

MODEL: ECM 805

PURPOSE: Portable Light Beam Equipment for the checking of wheel alignment and steering geometry.

DESCRIPTION: The equipment comprises light beam projectors which attach to the rim of the vehicle's road wheel, chart panels, alignment gauge, brake pedal depressor, turning radius plates and compensating plates.

Checks that can be carried out with the equipment include Caster, Camber, King Pin Inclination, Toe-InToe-Out, wheel run-out, rear axle alignment and turning radius angle.

SERVICES REQUIRED: The projectors can be connected to the battery of the vehicle under test or directly to the mains by means of a suitable 6 volt low voltage transformer.

RECOMMENDATIONS BY BMC: The criticism of the construction and operation of the first type of turning radius plates is now overcome by the introduction of a later type of more robust nature.

SUMMARY: Due to its portability, the equipment can be brought to the car to be checked, however, the necessary material is available if it is required to confine wheel alignment to one "static" station.

Given reasonably intelligent handling the equipment performs satisfactorily and fulfills all the checks listed above.

The front-rear and rear axle alignment checks have proved useful when a quick assessment of geometry distortion is required.

CONCESSIONAIRES FOR GREAT BRITAIN: Triangle Products Ltd., Manchester Road, Hyde, Cheshire.

OCTOBER 1961
EQUIPMENT: Vehicle key cutting machine

MODEL: '400'

METHOD & DESCRIPTION:
A blank of the key to be cut is correctly positioned and securely fastened in the clamp and the appropriate code plates placed in position.

By reference to the code book provided the various key cuts are carried out by rotating the rotary file or cutter and gradually feeding the blank into it.

The positions of the index levers which govern depth and lateral position of each cut are determined by the code plate markings.

The Key Cutter is capable of cutting all British pattern car keys, (including keys for petrol cap locks), and several American patterns.

SERVICES REQUIRED: NIL

RECOMMENDATIONS BY BMC:
It is thought that to speed the cutting operations and simplify correct code location the code book could be changed to chart form with easy reference.

SUMMARY:
Of the sample blanks included with the machine tested, all types were cut satisfactorily in approximately 2/3 mins.

These times can be improved upon as suggested in the above recommendation, also there is provision for the rotary cutter to be motor driven.

General construction of the machine is robust, it is relatively simple to operate and easily maintained.

INSTALLATION: Holes provided for fixing to bench top.

MANUFACTURER: V.L. Churchill & Co. Ltd., Great South West Road, Bedfont, Feltham, Middlesex.

SEPT 1961
EQUIPMENT: Hydraulic brake servicing unit

MODEL: JARC 50

PURPOSE: The unit is designed to carry out such operations as topping up, emptying, leak testing, bleeding and rinsing of all hydraulic brake systems.

DESCRIPTION & METHOD: Comprising of a steel-welded air reservoir within which is housed the fluid container. These two are linked by pipe and a reducer valve to ensure a controlled and correct pressure delivery.

The fluid container has a capacity of 1/2 gallons with a level indicator calibrated in 1/2 pint increments and to avoid corrosion interference the inside tank is tinned together with filters fitted at appropriate points. Also incorporated into the inner tank is an automatic shut-off valve guarding against the introduction of air into the braking system.

To prepare the equipment for use, the fluid container is filled, the air reservoir charged with air at 60 p.s.i. and the reducer valve setting checked at 20 p.s.i.

Connection is made to the master cylinder by means of the appropriate adaptor and the selector lever turned to the required position. Thereafter, the system is pressurised and a single operator is sufficient to carry out the operations.

SERVICES REQUIRED: N I L

RECOMMENDATIONS OF BMC: Where both Lockheed and Girling Systems are to be serviced it is felt that two units would be desirable.

SUMMARY: Of robust construction and well finished, the Unit is capable of dealing with the range of BMC vehicles by means of the adaptors available.

In workshop use, one operator has satisfactorily performed all operations with a minimum of fluid wastage and from the diagnosis aspect it is particularly useful for its ability in testing for leaks and for the correct operation of Master Cylinder Valves.

INSTALLATION: N I L


SEPT. 1961
EQUIPMENT: Paraffin Pressure Cleaning Tank
MODEL: 2E Electrically Operated
PURPOSE: To easily clean dirty and greasy motor vehicle components.

METHOD & DESCRIPTION:

The article to be cleaned is placed within the cubical, the electric motor started which will give an immediate high pressure spray from the hand nozzle.

The paraffin then drains back to the reservoir passing through the readily removable filters, which ensures that only paraffin in its sludge free state is used for further cleaning.

SERVICES REQUIRED: 230/250 or 400/415 Volts.
RECOMMENDATIONS BY BMC:

That the illuminated anti-splash shield and a pair of full arm length P.V.C. gloves are obtained with the tank for operator and general shop cleanliness.

The use of a crane or hoist greatly facilitates the handling of heavy components.

SUMMARY:

1. The pressure of the spray is adjustable to suit the components being cleaned.
2. A perforated tray is provided so that small components may be easily washed.
3. In the illuminated anti-splash shield, two transparent panels and arm holes are provided which prevents the operator being splashed and ultimately ensures the work is carried out more thoroughly.

This tank is ideal for the general cleaning and rinsing of most motor vehicle components.

DIMENSIONS: External: 3' long x 2' 6" wide x 3' 3" working height
Internal: 3' 6" long x 2' wide x 3' deep.

INSTALLATION: Connection to electricity supply only.

MANUFACTURER: Mann Egerton & Co. Ltd., Cromer Road Works, Norwich.

SEPT 1961
EQUIPMENT: ENGINE TIMING LIGHT
MODEL: P.37 Power Flash
PURPOSE: To check ignition timing while the engine is running.

The battery leads of the timing light are connected to the battery or suitable point on live side of ignition and earth.

The Timing Light high tension lead is then clipped to No. 1 sparking plug, the engine started and the timing marks observed, which will appear virtually stationary due to the stroboscopic flashing of the lamp.

SERVICES REQUIRED: N I L
RECOMMENDATIONS OF BMC:
1. For ease of viewing, the engine pointer and notch on crankshaft pulley should have thin white lines painted on them.

SUMMARY:
1. This lamp is suitable for both 6 and 12 volt systems.

2. Built into a convenient and robust toughened red plastic case, it is extremely useful when used in conjunction with other tuning equipment.

3. The Timing Light is equally suitable for engines with the timing marks on the crankshaft pulley and timing case or Flywheel and casing.

4. On engines where shrouded sparking plug terminals are used, a High Tension plug extension must be used which is included with the lamp.

This very portable instrument is most helpful in engine tuning as it is a quick means of checking that the ignition is set correctly and is advancing while the engine is running.

INSTALLATION: N I L

SEPT. 1961
EQUIPMENT: SINGLE-POST LIFT

MODEL: 3-Ton Semi-Hydraulic Roll-On

PURPOSE: To elevate a motor vehicle to gain access to the under-framework, enabling easier servicing.

DESCRIPTION & METHOD: This Lift consists of an 'H' section platform and a single central semi-hydraulic ram.

The vehicle to be raised is driven centrally over the ram, the handbrake applied or wheels chocked. The Lift can then be raised to any height up to its maximum of 5'.

LIMITATION: Due to the permanent nature of the installation, great thought should be given to the positioning of this Lift.

SERVICES REQUIRED: Minimum Air Pressure 150 p.s.i.

SUMMARY:

1. The model illustrated shows the platform fitted with end stops and automatic pivoted ramps, but any combination of fixed or pivoted ramps can be supplied.

2. Having the platform raised has been no disadvantage since the slope of the ramp is only 10° and has proved wide enough for vehicle manipulation.

3. The automatic counterbalanced weight is an excellent safeguard against a vehicle rolling off the Lift.

This type has proved very successful as a general purpose repair centre Lift, ideal in certain confined spaces since it may also be used as a turntable.

INSTALLATION: Platform 15' long x 8' wide with 17' 10" Turning Circle 7' 4" Pit for Ram.

MANUFACTURERS: Tecalemit Ltd., Plymouth, Devon.

AUGUST 1961
EQUIPMENT: VEHICLE WASH
MODEL: Tecalemit-Swain Washing Machine
PURPOSE: A Detergent Wash for cars and light commercial vehicles.
DESCRIPTION: This is an arch washing machine, traversed by an electric motor while the detergent and clear water wash is under the operator's control.
METHOD:
1. Position vehicle centrally beneath washing machine.
2. Traverse arch with clear water and at the end of the vehicle turn to detergent for reverse movement.
3. Operator then quickly goes over the complete vehicle with two lambswool mitts to remove excess dirt with the aid of detergent.
4. Traverse with clear water spray in both directions to rinse completely.
5. Allow car to "stand" or leather off according to requirements.
LIMITATION: Only by the height of the vehicle in relationship to the arch.
SERVICES REQUIRED: Electric motors available to suit local requirements. Water at 15 p.s.i.
RECOMMENDATIONS BY B M C: That operators are supplied with separate lambswool mitts for washing bodywork and chassis parts and a brush to clean the road wheels.
SUMMARY: The wash will readily remove all normal traffic film from the bodywork in the minimum of time. Since the arch traverses automatically once set in motion, much operator time is saved, especially if 2 or 3 wash bays are placed adjacent to each other thus enabling vehicles to be leathered while others are being washed.
INSTALLATION: Unobstructed floor space 14' wide x 25' long with 12' headroom for 8' 6" spray or 11' headroom for 7' 6" spray, with provision for adequate drainage.
MANUFACTURER: Tecalemit Ltd., Plymouth, Devon.
EQUIPMENT: UNIVERSAL EXTRACTOR FAN
MODEL: BAHCO MINOR UNIVERSAL EXHAUST FAN
PURPOSE: To extract welding and motor vehicle exhaust fumes.

DESCRIPTION: The fan is of the high pressure type with a maximum air volume capacity of 420 c.f.m. The framework is such that it can be fixed to floor, wall, ceiling or can be used as a portable unit since it weighs approximately 47 lb.

SERVICES REQUIRED: 220/240 Volt.
380/415 Volt.

RECOMMENDATIONS BY B M C:
When used as a portable unit, rubber feet should be fitted, giving quieter operation and protection during transit. During extended testing of motor vehicles, a flexible steel tube from the exhaust pipe to fan intake is considered essential, due to the amount of heat dissipated. These are being considered by the manufacturer.

SUMMARY:
1. The standard accessories supplied include reinforced rubber hoses, connecting flanges and a suction hood.

2. This unit has been used successfully for extracting exhaust fumes from vehicles checked on the roller test and for removing the unpleasant fumes whilst welding, especially when doing so in the vicinity of plastic foam material.

3. It may also be adapted for use on grinding machines and as a blower for forges.

INSTALLATION: N I L


English enquiries after 1st January, 1962, should be made to: Bahco Ltd., Bahco House, 23 Goswell Road, London, E.C.I.

SEPT. 1961
EQUIPMENT: PETROL ENGINE COMPRESSION TESTER
MODEL:

PURPOSE & METHOD:
When used to take a compression reading, the neoprene cone fits into the sparking plug aperture and a moving needle then marks a specially treated card and gives a record of the compression pressure reading in lbs. per. sq. in. When all cylinders have been tested, the card can be removed from the tester and a direct comparison of cylinder condition is available.

This operation can usually be carried out by one operator, when the starter switch is beneath the bonnet, but a further operator is required when checking the Austin 7 or Morris Mini-Minor due to the position and type of starter switch incorporated.

LIMITATIONS:
This instrument has been tried in the majority of BMC engines and no difficulties were experienced, for although normally used with a solid shaft, a flexible one is supplied for use in restricted engine compartments.

SERVICES REQUIRED: N.I.L.

RECOMMENDATIONS OF B.M.C:
Even faster results may be obtained with this instrument if used in conjunction with the Remote Starter Control, with the exception of the ADO 15 range.

SUMMARY:
This instrument helps to give a quick diagnosis of cylinder condition and gives the added advantage of recording the results obtained. The card can easily be attached to the Job Card and remain in the car file as a permanent record of cylinder condition.

INSTALLATION: N.I.L.

MANUFACTURER: Crypton Equipment Ltd., Bridgwater, Somerset.

AUGUST 1961

P.T.O.
EQUIPMENT: HYDRAULIC CRANE
MODEL: Teodraulic Crane
(P10/20 Cwt.) Capacity
PURPOSE: Mobile general purpose floor crane.

METHOD AND DESCRIPTION:
The telescopic manually adjustable jib is set to the position desired for load and reach, then a rope or chain is attached, from the load to either the fixed or swivel hook.

To raise the jib a stout handle moves the ram 5/16th" on every stroke, to the maximum ram movement of 23".

LIMITATIONS:
In a restricted space by the overall height of the Crane and where it is not possible to place the support frame beneath or to the side of the load.

Due to the low ground clearance, this Crane is only really suitable for use on smooth level surfaces.

SERVICES REQUIRED: N I L.

RECOMMENDATIONS BY BMC:
Have brought about the re-design of the towing bracket handle and retaining clip.

SUMMARY:
1. The extreme simplicity of use and shape has done much to popularise this unit.

2. This Crane has made possible the fitting of engines in any part of the workshop, but when fine movements are required, two operators are necessary since the controls cannot be reached from beneath the hook.

This Hydraulic Crane has proved extremely valuable as a general means of moving relatively heavy loads, and has been entirely satisfactory since the towing handle has been modified.

DIMENSIONS:
Overall Height - 64"
" Width - 39"
" Length - 65"
Height of frame from ground - 8½"


SEPT. 1961 P.T.O.
EQUIPMENT: DIESEL ENGINE COMPRESSION TESTER

MODEL: DIESTESTER (Mark II)

PURPOSE: To check maximum compression pressures at idling and normal engine speeds on diesel engines.

METHOD: Diestester is inserted in place of the injector and the drain tube is connected to the fuel line of that cylinder.

The engine is then revolved by the starter motor or under its own power, the maximum compression being indicated by a steady needle on a large dial.

LIMITATIONS: This self-contained portable unit is universal for checking BMC diesel engines and is also suitable for other engines using standard injectors.

SERVICES REQUIRED: N I L.

SUMMARY:
1. This instrument is very neat in appearance with a clear 4" diameter gauge tabulated in both P S I and A G C scales. A moveable pointer is included which is most useful for comparison of cylinder pressure.
2. The kit is supplied in a robust metal case with various spacers and adaptors corresponding to the different lengths and diameters of the injectors.
3. By means of the compression release valve many checks can be made on each cylinder without removing the instrument.

The Diestester gives quick and accurate compression readings in each cylinder, with the engine running, thus providing essential information in engine fault diagnosis.

INSTALLATION: N I L.

MANUFACTURER: Dunedin Engineering Co. Ltd. 73 - 75 Mortimer St., London NW1.

AUGUST 1961

P.T.O.
EQUIPMENT:  BRAKE TESTER (Decelerometer)
MODEL:  Churchill 699 Brake Efficiency Recorder
PURPOSE:  A method of permanently recording the braking efficiency of any motor vehicle.
METHOD & DESCRIPTION:

The instrument is placed in the passengers footwell and when a suitable test road is reached, it is levelled by means of three adjusting screws.

The pendulum catch is then released and the vehicle braked from any speed over 8 m.p.h. The retardation moves a ball pointed pendulum over a graduated card, thus recording the braking efficiency as a direct reading.

LIMITATION:  No indication of individual brake efficiency is given so that any brake grab can influence recordings obtained. The results are not reliable when taken under slippery or icy conditions.

SERVICES REQUIRED:  N I L
RECOMMENDATIONS
OF B M C  A more enclosed body to protect working parts from dust and damage.
SUMMARY:

1. The surface of the floor on which this instrument is mounted must not be smooth, otherwise there is a tendency for the unit to slide due to the deceleration of the vehicle.

2. Brakes pulling to the side are indicated by the pointer veering from the centre line of the card and can be easily detected by personnel experienced in the use of this machine.

This instrument has performed satisfactorily and consistent readings maintained during regular use.

MANUFACTURER:  V.I. Churchill & Co. Ltd., Feltham, Middlesex,

AUGUST 1961
TWIN-POST VEHICLE LIFT

PURPOSE: To give better accessibility to the underside of a vehicle for general mechanical repair work.

DESCRIPTION: The Lift comprises of two hydraulic rams. One ram is stationary and lifts the rear end of the vehicle, locating under the rear axle. The front ram rests upon a roller bearing carriage and is adjustable to any wheel-base by means of a ratchet mechanism.

LIMITATIONS: As with all hydraulic lifts, installation is of a permanent nature, therefore, some forethought of positioning is required when installing.

SERVICES REQUIRED: Compressed Air at 150-175 p.p.s.i. minimum. (Dependent on Model).

RECOMMENDATIONS BY B M C: Following suggestions by B M C, new adaptors are available to suit all models.

SUMMARY: One of the best types of lift available for general repair work giving excellent access for the inspection/adjustment, removal or replacement of items such as gearboxes, propeller shafts, rear axles, exhaust and braking systems and suspensions.

Since each post of the Lift can be raised or lowered independently or jointly and can be stopped at any height, this can be applied to the task required.

The good accessibility and the lessening in operator fatigue gained by these points must ultimately result in quicker throughput of the work.

INSTALLATION: Brick Sided Pit 15" - 17" Wide x 11' 6" - 13' 3" Long x 8' 3" Deep. (Dependent on Model).

MANUFACTURER: Kismet Ltd., Fenlake Works, BEDFORD.
UNIT LIFT

PURPOSE: For ease of handling components such as Automatic Transmission and Gearbox Assemblies when removing or refitting these items with vehicle in an elevated position.

LIMITATIONS: The Unit is designed for use in conjunction with the Kismet Twin-Post Lift, or similar installation, (or alternatively, a pit), which gives good access to the underside of a vehicle.

SERVICES REQUIRED: NONE

SUMMARY: When applied to situations as given above, the equipment is regarded as essential and of valuable assistance when manipulating bulky transmission units.

The table fitted to the top of the lift is designed so that a Unit to be refitted may be chained into position and then tilted to the required angle of entry. This feature of the equipment gives an additional factor of convenience.

INSTALLATION: NIL

MANUFACTURER: Kismet Ltd., Fenlake Works, Bedford.

JUNE 1961

P.T.O.
PNEUMATIC CHISEL

PURPOSE: To improve upon existing methods used for the above operations in body repair work, by reducing time and operator fatigue.

DESCRIPTION: A pneumatically operated unit, the standard kit includes five types of chisels and a punch capable of cutting sheet metal, bolts, rivets, spot-welds, driving out pins and bolts, and for scraping paint and dirt, etc.

SERVICES REQUIRED: Compressed Air at 90 p.p.s.i.

SUMMARY: Tests have shown the cutter to be quick in operation and easy to use. When cutting sheet metalwork, a good clean cut is obtained with a minimum of distortion.

It has been found ideal for use when working in the proximity of body sealing compounds, which are liable to catch fire if using a flame cutter.

INSTALLATION: NIL

AIR & ELECTRIC IMPACT WRENCHES

PURPOSE: Powered by compressed air or electricity, the rotary impact mechanism is designed to cut servicing time and costs, and eliminate operator fatigue.

DESCRIPTION: A multi-purpose tool suitable for running nuts, driving screws, reaming, tapping, stud removing etc., it incorporates a mechanism which produces a series of rotary impact blows when resistance is encountered. This torque is transferred to the item to which the tool is applied with a minimum of reaction to the operator.

METHOD: A torque control device which is available with the S U T model (electric), requires continual resetting if the tool is used upon bolts and nuts of differing torsion readings. Whereas torsion control of the compressed air model is achieved by adjustment provided in the trigger mechanism.

It has been found in practice that by frequent use of the tools, the operator can assess the required torque within reasonable limits.

SERVICES REQUIRED:

Air: 90 P P S I
Electric: Standard 220/250 Volt (115 Volt Model Available), D C or A C of 25, 40, 50 or 60 Cycles.

SUMMARY: Time-saving achieved by using these tools has varied for different operations, but has always shown to be considerable. In some instances, operation time has been cut to one-fifth of the time normally taken.

The Impact Wrenches in practice have proved conclusively their usefulness for use within Repair Stations.

INSTALLATION: NIL

MANUFACTURER: Ingersoll-Rand, Co. Ltd., 165 Queen Victoria Street, LONDON, E C 4

JUNE 1961
TIMING MIRROR FOR AUSTIN SEVEN AND MORRIS MINI-MINOR

PURPOSE: To facilitate viewing of the flywheel markings so that a stroboscopic timing light can be used to check the ignition setting.

METHOD: After removal of the cover plate from the flywheel casing the mirror bracket is fixed in position. The angle of the mirror is such that the T.D.C. marking on the flywheel is readily visible.

SERVICES REQUIRED: NIL

MODIFICATIONS: Since the prototype was submitted for test, improvements in design have been incorporated into the latest model so that it is not necessary to remove the cover plate set-pin. Any risk of dropping the set-pin into the flywheel casing aperture is thereby eliminated.

SUMMARY: This mirror is essential for satisfactory timing on the ADO 15 models whether or not the timing light is used. The cost is negligible and in view of the vast numbers of these models being serviced, it is an essential piece of equipment.

INSTALLATION: NIL

MANUFACTURER: Crypton Equipment Ltd., Bridgwater, Somerset.
FLUORESCENT INSPECTION LAMP

PURPOSE: To improve upon efficiency of light for inspection purposes and workshop use.

LIMITATIONS: The length of the lamp and handle of approximately 20 inches makes the unit difficult to use in a few very confined spaces.

SERVICES REQUIRED: Voltages 200/250
(24v & 110v on request).

RECOMMENDATIONS BY BMC: Fitted to the first type of lamp submitted to trial was a rubber protection cone, however, this prevented the operator "pointing" the light. This has now been overcome by simple modification.

SUMMARY: The lamp is of robust construction and is well protected against accidental damage.

The fluorescent light given off by the lamp is of good quality and is ideal for the detection of flaws in paint and bodywork.

INSTALLATION: NIL


JUNE 1961
TIMING MIRROR PERISCOPE

PURPOSE: Used in conjunction with a stroboscopic timing light and the Crypton "Motornmaster" when checking ignition timing.

SERVICES REQUIRED: Nil

LIMITATIONS: This piece of equipment is limited in application to all BMC vehicles fitted with the conventional "A" type and "B" type engines.

RECOMMENDATIONS BY BMC: Following testing of the original Periscope a longer version was manufactured to accommodate the ADO 9 models which have an increased frontal overhang.

SUMMARY: It is considered that this is an essential piece of Repair Shop equipment for dealing with the ADO 9 range and this, of course, represents quite a high percentage of BMC car output.

INSTALLATION: Nil

MANUFACTURER: Crypton Equipment Ltd., Bridgwater, Somerset.

JUNE 1961
EXHAUST GAS ANALYSER

PURPOSE: To measure the quality of exhaust gases using a pick-up fixed to the outlet of a vehicle's exhaust pipe. The gas is carried by a clear plastic tube to the analyser unit.

The analyser unit which is designed to be housed in the "Motormaster" unit comprises battery gauge and operating controls.

The gauge is calibrated for propane and butane gas in addition to the normal air/fuel ratio scale.

SERVICES REQUIRED: NIL

LIMITATIONS: The Exhaust Gas Analyser has only limited value when used as an individual instrument, but when correctly applied with other equipment, is capable of justifying itself.

RECOMMENDATIONS BY BMC: The air/fuel ratio figures on the gauge whilst serving as a guide to some extent, could be substituted entirely by the coloured sectors denoting gas condition.

SUMMARY: An operator using this instrument consistently, becomes familiar with the results to be expected from differing carburettor layouts and is able to diagnose faults from the behaviour of the gauge. Optimum results can be obtained from this instrument when used in conjunction with the Crypton "Motormaster".

It is also extremely useful for analysing carburation conditions at high speeds under load and due to its portability this can easily be achieved.

INSTALLATION: NIL

MANUFACTURER: Crypton Equipment Ltd., Bridgwater, Somerset.

JUNE 1961
SPOT WELDING UNIT

PURPOSE: To carry out body repair work, replacing damaged body panels, etc., by the process of spot welding.

LIMITATIONS: Since there are a great variety of shaped electrodes available, all body welding requirements can be covered by the set.

SERVICES REQUIRED: Voltages 220/250 or 380/425

CAPACITIES: The 189A welding gun with standard electrode holders = 14 + 14 S.W.G. or 18 + 5/32".

The "DP, 35" twin spot gun on mild steel = 22 + 22 S.W.G. or 22 S.W.G. on to heavier thickness.

SUMMARY: The 189A welding gun is so designed to overcome obstructions and profiles, etc. whilst the twin spot gun DP, 35 is used whenever one side only is approachable.

Both units incorporate automatic timing devices giving welds of equal strength and quality with a minimum of skill.

Both units are considered most satisfactory for body repair work and the standard of finish obtained is extremely good.

INSTALLATION: Nil

MANUFACTURER: A.R.O. Machinery Co. Ltd.,
190 Castelnau, London, S.W.13
BRAKE PRESSOMETER

PURPOSE: To establish equal pedal pressure application to the front and rear pairs of wheels when testing a vehicle's brakes on a static roller brake tester.

LIMITATIONS: Since it requires the operator's full attention when measuring brake pedal pressures this piece of equipment can only be used successfully in conjunction with the static type of brake tester.

SERVICES REQUIRED: NIL

RECOMMENDATIONS BY BMC: Several simple improvements were suggested including the colouring of the engraved figures on the scale and an improved spring clip for fixing the pressure unit to the brake pedal have been incorporated in the production model.

SUMMARY: This type of Pressometer is considered most satisfactory and is indeed essential to maintain accurate and steady pedal pressures for testing on roller type brake machines.

INSTALLATION: NIL

MANUFACTURER: Joseph Bradbury & Sons Ltd., Braintree, Essex.

JUNE 1961
STATIC BRAKE TESTER

PURPOSE: To test a vehicle's brakes within a Service Station to obtain an overall brake efficiency reading for foot and hand brakes, also as a diagnostic instrument determining the retardation figures of the individual brake drums.

LIMITATIONS: A Brake Pedal Pressometer must be used in conjunction with this machine to maintain equivalent pedal pressures for front and rear pairs of wheels.

This machine does not take weight transference, which occurs on normal braking conditions, into account.

SERVICES REQUIRED: Voltage 380/420 A.C. 3 phase 50 cycle (Non-standard motors available).

RECOMMENDATIONS BY B M C:

The maximum recording needles as fitted to earlier models, but since discontinued, could be used to advantage for easier readings when one operator is using the equipment.

Whilst the wall chart system of calculating the efficiencies is satisfactory, a sliding or rotary calculator would give speedy reference.

SUMMARY: This type of tester has proved to be quick at pin-pointing discrepancies, such as oily linings, drum ovality, etc., in the individual wheels, which would not easily be noticed whilst on road test.

Maladjustment of the hand brakes is also shown clearly and in many instances can be rectified "in situ".

INSTALLATION: Reinforced pit 9' 8½" x 3' 5¼" x 3' 0½"

MANUFACTURER: Joseph Bradbury & Sons Ltd., Braintree, Essex.

JUNE 1961
PISTON EXPANDING MACHINE

PURPOSE: To expand the skirt of a piston by a controlled amount with a view to reduction of piston noise.

METHOD: Expansion is achieved by impinging the internal wall of the skirt with fine lead shot at a predetermined pressure and for an accurately measured period of time. The piston is rotated during the operation to ensure even circumferential expansion.

LIMITATIONS: Only split-skirt pistons can be treated in this manner. Maximum permissible expansion = .005".

SERVICES REQUIRED: Compressed air at 80 p.p.s.i.

OPERATIONAL TIME: Approximately 2/3 minutes per piston (including loading and unloading).

RECOMMENDATIONS OF BMC: Following tests carried out with the first type of machine, the makers have produced a Bench Model, (illustrated) of neater appearance but with identical performance, thereby eliminating any wasted floor space.

SUMMARY: Tests have proved that despite long mileages, pistons subjected to this process are permanently satisfactory.

Installation of this equipment would, therefore:

1. Considerably reduce the necessity of holding large stocks of pistons of varying grades.
2. Enable customers' complaints to be dealt with promptly,
3. Eliminate the need for a "running-in" period for the vehicle and consequent inconvenience to the customer.

Tests have proved that the machine in its latest form is a most useful and interesting addition to the equipment of a modern Repair Shop.

INSTALLATION: Nil

JUNE 1961