GENERATORS

SUPPLEMENTARY INFORMATION TO SECTION A-2 ISSUE 3

1. NEW GENERATORS

(a) MODEL C39PV-2 PART Nos. 22299 and 22300

The above machines (originally fitted in 1959 by Morris Commercial Cars, Ltd., to 3.4 and 5.1 litre diesel-engined vehicles operated by British Road Services) carry a ball race bearing at the commutator end in addition to the standard bearing assembly at the drive end. The former is of the double shielded type (189237) and, before fitting, is packed with Energrease RBB3 high melting point grease. At the commutator end, the bearing is a sliding fit in the bracket housing and an interference fit on the shaft. The commutator end bracket carries an outer blanking plate and rubber seal secured by two set screws. In all other respects 22299 is identical to the standard model, while 22300 is arranged for insulated return installations.

(b) MODELS C45P-6, C45PV-6, C45PVR-6 and C45PVSR-6

The above machines supersede models C45P-5, C45PV-5, C45PVR-5 and C45PVSR-5. The new machines incorporate a modified brushgear assembly and the maximum output of the ventilated models has been increased, otherwise they are basically similar to the former range. Details of performance and particulars of brush spring tension and maximum permissible brush wear are given in para. 3 (overleaf).

(c) MODEL C48

The above machine is a completely new design superseding model C47. It is produced for positive and negative earth installations and for special applications requiring fully screened, radio-suppressed units.
Ball race bearings are provided at each end of the armature. At the commutator end the bearing outer race is a sliding fit in the C.E. bracket while the inner race is secured to the armature shaft with a set screw, tab washer and retaining cup—the shaft being centre-tapped. The drive end bearing is secured with a die-cast retaining plate and four countersunk screws, the ends of the screws being caulked over on the outer face of the bracket.

As with model C47, provision is made to accommodate a radio suppression capacitor inside the commutator end bracket.

2. GENERATORS FOR MOTOR RACING AND RALLIES

(a) SPECIAL CONSTRUCTION

Generators produced for motor racing and certain rally classes are recognisable by the letter 'R' appearing in the model nomenclature. In addition, one or more of the following special features may be incorporated:

(*i*) Provision for a tachometer drive.

(*ii*) Bearing retaining plate at drive end secured with bolts, tab washers and nuts.

(*iii*) Ball race bearing at commutator end.

(*iv*) Field coil assemblies "cemented in", i.e., rubber-bonded to yoke and not normally replaceable in service except as complete yoke assemblies.

(*v*) Flexible stranded wire used for field coil connections and inter-connections.

(*vi*) Commutator connections made with Fry's HT3 high melting point solder.

(*vii*) Armature winding slots fitted with laminated plastic wedges in place of manilla pegs.

(*viii*) "Windowed" yoke with removable band cover for brushgear inspection.

(*ix*) Cast iron end brackets.

(b) APPLICATION OF PERFORMANCE DATA

As generators for motor racing are sometimes produced in small numbers conforming to special "tailor-made" performance specifications, it is not practical to provide in para. 3 information covering every such special machine. Therefore, it is essential always to ascertain the Part Number of the machine under test and to see if it appears in the table before applying any of the information given therein. If the Part Number concerned does not appear, application should be made to the Racing Section, Great King Street, for the relevant data.

P.T.O.

3. PERFORMANCE DATA

Model	Nominal Voltage	Cutting-in speed (R.P.M.)	At Gen. Volts	Max. Continuous Output (Amp.)	At R.P.M.	At Gen. Volts.	On Resistance Load (ohms)	Field Resistance (ohms)	Brush Spring Pressures	Replace Brushes At
C39PVR–2 (22286–87 –89 and 96)	12	1200 (max.)	13	19	2150 (max.)	13.5	0.71	6.1	16–25 oz. (453–708 g.)	$\frac{11}{32}''$ (8.73 mm.)
(22279) (22290)		1800 (max.)		23	2700 (max.)		0.59	6.1		
C45PVR–5 (22520) C45PVSR–5 (22522)	12	1250 (max.)	13	22	1900 (max.)	13.5	0.61	6.0	24–36 oz. (680–1021 g.)	$\frac{7}{16}''$ (11.11 mm.)
C45P–6 (non-ventilated)	12	1300 (max.)	13	13 (Test Amps., Cold: 25 at 2050 r.p.m.)	1640 (max.)	13.5	1.04	6.0	20–28 oz. (567–794 g.)	$\frac{11}{32}''$ (8.73 mm.)
C45PV–6* C45PVR–6 (22525) C45PVSR–6 (22527)	12	1300* (max.)	13	25*	2050* (max.)	13.5	0.54	6.0	20–28 oz. (567–794 g.)	$\frac{11}{32}''$ (8.73 mm.)
C48	12	850 (max.)	13	35	1650 (max.)	13.5	0.385	6.0	16–25 oz. (453–708 g.)	$\frac{11}{32}''$ (8.73 mm.)

* Model C45PV–6 Part No. 22532 has a C.I.S. of 1450 r.p.m. (max.) and an output of 30 amperes at 2200 r.p.m. (max.).

Conditions of Test

The cutting-in and maximum output speeds quoted above are production test figures and refer to cold machines with brushes only partially bedded. Statistical limit figures and figures obtained under other conditions will necessarily differ from the above.

Brush Spring Tests

Brush spring pressures must be measured with a spring balance held radially to the commutator. The higher of each pair of pressures quoted above refers to the maximum pressure exerted by a new spring on a new brush, whilst the lower refers to the minimum pressure exerted by a new spring on a brush worn to approximately its minimum length. Both pressures should be measured and defective springs replaced. In each instance the figures refer to pressures on a commutator that has not been re-skimmed.