TECHNICAL DATA

	Mks. 10, 10/1 and 10/2	Mks. 12, 12/1 and 12/2
Cylinder Bore	50 mm=1.9695″/1.9690″	55 mm=2.1680″/2.1675″
Piston Stroke	50 mm	50 mm
Cubic Capacity	98 c.c.=6 cu. ins.	120 cc..=7.3 cu. ins.
Power Output, Petrol Engines (Gasolene)	.75 BHP @ 1,500 RPM 1.30 BHP @ 3,000 RPM	.95 BHP @ 1,500 RPM 1.5 BHP @ 3,000 RPM
Power Output, Vaporising Oil	Approx. 12% less than above figures	
Fuel Tank Capacity, Standard	½ gallon	½ gallon
Oil Sump Capacity, Standard	1 pint	1 pint
Crankshaft Bearings	L.S.8 ¾″×1⅞″×9/16″. 3 dot	
Crankpin Diameter	.7500″/.7497″ (Mk. 10 only)	.8737″/.8734″ (also Mk. 10/1)
Regrind Diameter (Crankpin)	Mks. 10/1, 10/2, 12, 12/1 and 12/2 only, to suit .020″ undersize liners	
Piston Skirt Clearance In Cylinder, Max.	.005″ on diameter	.006″ on diameter
Piston Rings	2 compression and 1 scraper ring	
Magneto	Villiers Flywheel Type with cooling fan	
Contact Breaker Gap	.012″/.016″	
Sparking Plug	Mks. 10 and 12, Lodge CB3, 18 mm, Long Reach	
Sparking Plug	Mks. 10/1, 10/2, 12/1 and 12/2, Lodge BN, 14 mm	
Sparking Plug	Mk. 12/1 (Vaporising Oil) Lodge CB3, 18 mm	
Sparking Plug Gap	.02″	
Ignition Timing	3/16″ before Top of Compression Stroke	
Valve Tappet Clearance	.006″/.010″ when cold, Inlet and Exhaust	
Carburetter	Mks. 10 and 12, Villiers Type "V", Later Types B.10 or B.10/1	
Carburetter	Mks. 10/1, 10/2, 12/1 and 12/2, Villiers, Type B.10 or B.10/1	

MARK 15 AND MARK 15/2 ENGINES

Cylinder Bore	63mm=2.481″/2.4805″
Piston Stroke	47 mm
Cubic Capacity	147 cc=8.9 cu. ins.
Power Output—	
Petrol Engine (Gasolene)	1.1 BHP @ 1,500 RPM—2.5 BHP @ 3,600 RPM
Crankshaft Bearing, Drive Side	MS.9, 3 Dot, ⅞″ x 2¼″ x 11/16″
Crankshaft Bearing, Magneto Side	LS.8, 3 Dot, ¾″ x 1⅞″ x 9/16″
Crankpin Diameter	1.00″/.9995″
Crankpin Regrind Diameter	.980″/.9795″
Piston Skirt Clearance in Cylinder	.005″ on Diameter (Max.)
Piston Rings	3 Compression and 1 Scraper
Sparking Plug	Lodge C.14. Point Gap .02″
Ignition Timing	⅛″ Before Top of Compression Stroke
Valve Tappet Clearance	Inlet, .003″, Exhaust .006″ When Cold.

(For further details see page 26.)

OVERHAULING INSTRUCTIONS

(1) GENERAL DESCRIPTION, MK10 AND 12 VARIOUS MODELS.

The Marks 10 and 12 engines were introduced during the last war to meet the demand for small power units for use in the various Services. They are the first of the Villiers range of four-stroke, vertical, single cylinder, air-cooled engines to be produced. An exploded drawing of the Mark 10 engine is shown in Fig. 1. The Mark 12 engine is very similar in construction, but has a greater cylinder bore and also a larger crankpin and connecting rod to suit. The engines are interchangeable as complete units. The later Marks 10/1, 10/2, 12/1 and 12/2 models are interchangeable as complete units with the earlier engines, but owing to the different types of carburetter fitted the tanks are raised approximately two inches to give the required head of fuel. See exploded drawing, Fig. 2.