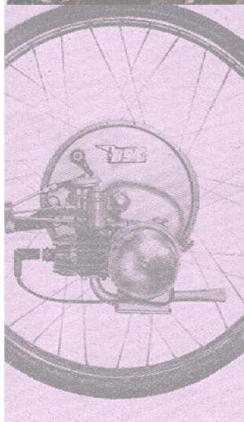


# IceniCAM Information Service



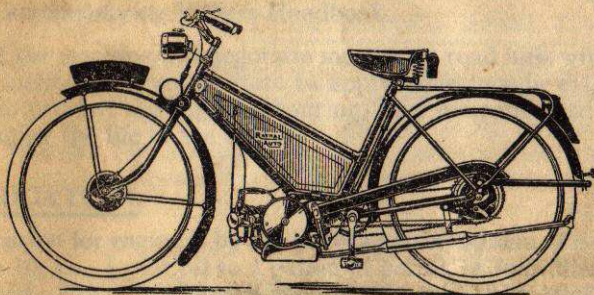
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C. J. F. 827

SH 5949  
1478. Lane

(88)

# RAYNAL AUTO



## INSTRUCTION and Spare Parts Price List

PRICE 6d. NETT.

Manufactured by  
**THE  
RAYNAL MANUFACTURING Co. Ltd.**

DIRECTORS:  
G. S. COTTRELL (CHAIRMAN), A. B. JACKSON (MANAGING), G. P. PHILIPSON-STOW

**WOODBURN ROAD, HANDSWORTH  
BIRMINGHAM 21.**

Telephone:  
SMETHWICK 0738

Telegrams:  
RAYNAL, BIRMINGHAM

*Printed in England.*



RAYNAL AUTO



Spare Parts Price List

PRICE 6s. NETT.

Manufactured by  
RAYNAL MANUFACTURING Co. Ltd.  
WOODBURN ROAD, HANSDWORTH  
BIRMINGHAM 21.

SOLE AGENTS  
RAYNAL BIRMINGHAM



## A FEW GENERAL HINTS

These instructions have been compiled to give every assistance to the owner of the "RAYNAL-AUTO" in its care and maintenance, and the design is such to render the few adjustments simple and accessible. The Power Unit is the well tested Villiers "Junior," full instructions for which are given in the accompanying Villiers Handbook.

Whilst the machine will negotiate most main road hills without pedal assistance never hesitate to apply assistance in extreme cases to prevent the engine labouring, thus reducing wear and prolonging the life of the unit.

### LUBRICATION.

Lubrication for engine is by the proved petrol system at a ratio of 1 in 16, i.e.,  $\frac{1}{2}$  pint oil to 1 gallon of petrol, or four filler cap measures. Use only either of the following oils, "Mobiloil D," "Castrol XL," "Triple Shell" (Heavy), "Essolube 50," or "Motorene C," and any of the first grades of well known petrol. Mix thoroughly before filling tank otherwise oil will deposit at bottom of tank causing difficulty in starting.

The Clutch runs in oil in a separate compartment of the crank case which should be constantly maintained with a level of oil just below filler which is situated under driving sprocket. Use only one of the following oils, "Mobiloil D," "Castrol D," "Golden Shell" (Extra Heavy), "Essolube Gear Oil" (Heavy), "Motorene Battersea A."

### STARTING.

Close carburettor strangler by pulling up control rod on tank, turn on petrol and depress tickler on carburettor only until first sign of petrol appears, open throttle control about one third, release clutch by lifting lever till trigger holds in the free position. Mount the machine, pedal as an ordinary bicycle for a few yards, then release clutch when engine will start. Another method is to push machine in gear with exhaust release lever raised, release lever after a few yards, when engine fires raise



clutch lever, mount and ride away by gradually engaging the clutch. Open Carburettor strangler at the earliest possible moment, in cold weather it may be necessary to keep this partially open until engine is warmed up.

When engine is hot there is no need to flood carburettor or employ strangler.

### **FRONT FORK ADJUSTMENT.**

When the shock absorbers have become bedded down it will be necessary to take up play. To do this loosen lock nut on near side of fork (R.H. thread) tighten fork bolt from off-side to required adjustment, finally locking up nut on near side. Lubricate fork bolt periodically by grease gun.

### **CHAIN ADJUSTMENT.**

Chains are provided with independent adjustment. To adjust, loosen wheel nuts and adjust driving chain by means of chain adjusters provided, when desired adjustment is obtained (care being taken to see wheel is positioned centrally), adjust jockey sprocket in pedalling chain to obtain nice tension—lock in position with hub nut, finally lock up reverse side.

### **BRAKE ADJUSTMENT.**

The rear brake is operated by a catch plate on the L.H. Crank which, by a back pedalling action engages the brake lever. When the brake linings have bedded down reduce leverage by means of the adjusting nuts at end of brake rod. The best method is to place the Auto on the stand with clutch withdrawn. Rotate rear wheel by hand, take up adjustment till brake shoes just begin to rub, then loosen off adjusting nut two or three full turns and lock in position.

The front brake is cable operated and is adjusted by means of the adjusting screw incorporated in the lower end of the cable. Lubricate hubs periodically by means of grease gun provided using good grease, since oil tends to percolate into the brake band reducing brake efficiency.



## GENERAL.

Lubricate bottom bracket, head-races and chains periodically with oil, as is usual with an ordinary cycle. It is a wise plan to occasionally run over the machine with a spanner and test all nuts and bolts for tightness. Take up any play in head of frame by headlock nut to ensure good steering.

## A FEW DON'TS FOR BEGINNERS.

DON'T forget to give the frame and engine number in all correspondence to us. The former is stamped on the engine bracket and the latter on crank case at cylinder base.

DON'T forget to write to us if any point is not clear.

DON'T race the engine unnecessarily when stationary.

DON'T overdrive the Auto for the first 250 miles.

DON'T apply your brakes suddenly except in emergency.

DON'T forget to keep tyres well inflated.

DON'T continue to run the Auto if you feel there is some slight defect. Investigate this and if unable to trace the trouble get into touch with your dealer immediately.

DON'T omit to study "The Highway Code," a copy of which is obtainable from the local licensing authority.

# LIST OF REPLACEMENT PARTS FOR THE RAYNAL-AUTO

## MAIN FRAME AND FITTINGS.

REF. No.	DESCRIPTION.	PRICE EACH.		
		£	s.	d.
R.1	Frame only, less fittings .. ..	2	8	0
R.2	Front Forks .. ..	11	6	
R.3	,, Fork Column and Crown .. ..	6	9	
R.53	,, ,, Spring .. ..	3	0	
R.54	,, ,, ,, Clamp .. ..			4
R.95	,, ,, ,, ,, Bolts, 3 per set each			3
R.97	,, ,, ,, ,, Nuts, 3 per set each			1
R.91	,, ,, Pivot Bolt .. ..			6
R.96	,, ,, ,, ,, Nut .. ..			2
R.99	,, ,, Damper Discs per pair	1	0	
R.4	,, ,, Grease Nipples, 2 per set each			2
R.55	Lamp Bracket .. ..	1	4	
R.5	Bottom Ball Race .. ..			8
R.6	Crown Ball Race .. ..			4
R.7	Top Ball Race .. ..			6
R.8	Screwed Ball Race .. ..			8
R.9	Head Lock Nut .. ..			6
R.10	,, Race Balls, 5/32, 50 per set			4
R.71	Bracket Axle .. ..	3	0	
R.11	L.H. Bracket Cup .. ..			8
R.12	R.H. Bracket Cup .. ..			8
R.13	Bracket Lock Ring .. ..			3
R.14	,, Balls, 1/4, 22 per set per set			3
R.15	Chain Wheel and Crank .. ..	3	9	
R.16	L.H. Crank .. ..	1	3	
R.17	Crank Cotters and Nuts, 2 per set each			2



TANK AND FITTINGS

REF. No.	DESCRIPTION.	PRICE EACH.	
		£	s. d.
R.18	Pedal R.H. . . . .	1	6
R.19	„ L.H. . . . .	1	6
R.113	Brake Catch Plate . . . . .		4
R.112	„ Trip Lever . . . . .		6
R.82	„ „ „ Spring . . . . .		2
R.20	Seat Pillar . . . . .	1	6
R.85	„ Lug Bolt . . . . .		2
R.86	„ „ „ Nuts, 2 per set . . each		4
R.110	Front Mudguard complete . . . . .	2	8
R.21	„ „ „ Splasher . . . . .	1	6
R.111	Rear Mudguard . . . . .	2	8
R.80	„ „ „ Distance Piece . . . . .		3
R.94	„ „ „ „ Bolt . . . . .		6
R.75	„ Carrier . . . . .	7	6
R.109	„ „ Bolts, 2 per set . . each		2
R.98	„ „ Nuts, 2 per set . . each		1
R.22	Front Number Plate . . . . .		8
R.23	Rear Number Plate . . . . .	1	4
R.106	Central Stand . . . . .	6	0
R.105	„ „ „ Bracket . . . . .	3	0
R.94	„ „ „ „ Bolt . . . . .		3
R.98	„ „ „ „ Nut . . . . .		1
R.122	„ „ „ Spring . . . . .		3
R.107	„ „ „ „ Bolt . . . . .		4
R.98	„ „ „ „ Nut . . . . .		1
R.108	„ „ „ „ Pivot Bolt . . . . .		4
R.97	„ „ „ „ Nut . . . . .		1
R.119	„ „ „ „ Distance Piece . . . . .		2
R.57	Chain Guard . . . . .	2	8
R.93	„ „ „ Front Bolt . . . . .		2
R.90	Engine Bolts, Nuts and Washers, 2 per set each		8
R.116	Silencer Tail Pipe . . . . .	3	0
R.121	„ „ „ Stay and Clip . . . . .		4
R.109	„ „ „ Clip, Bolts and Nuts each		3



## TANK AND FITTINGS.

REF. No.	DESCRIPTION.	PRICE EACH.		
		£	s.	d.
R.117	Tank less fittings .. .. .	1	0	0
R.118	,, Oil Measure .. .. .			6
R.25	,, Filler Cap .. .. .	1	6	
R.26	,, Petrol Tap .. .. .	2	0	
R.27	,, ,, Pipe with Unions .. .. .	2	9	
R.114	,, Choke Rod .. .. .			6
R.89	,, ,, ,, Knob .. .. .			3
R.88	,, ,, ,, Guide Pin and Washers			3
R.72	,, Rubber Rests, 4 per set .. each			2
R.92	,, Fixing Bolts, 4 per set .. each			3

## HANDLEBAR AND CONTROLS.

R.28	Handlebar only with Expander bolt ..	5	10	
R.29	,, Rubber Grips per pair	1	0	
R.30	Clutch Control complete with Cable, etc.	6	6	
R.31	,, ,, Lever with Trigger and Clip	4	6	
R.32	,, ,, ,, and Trigger only	2	9	
R.33	,, ,, ,, Clip bottom half ..	1	0	
R.34	,, ,, ,, ,, Top half ..			6
R.35	,, ,, ,, ,, Bolt and Nut			3
R.36	,, ,, ,, Pivot Bolt and Nut			3
R.37	,, ,, Cable .. .. .	1	0	
R.38	,, ,, ,, Cover .. .. .	1	6	
R.39	,, ,, ,, with cover and adjuster ..	2	6	
R.40	Front Brake Control complete .. ..	4	4	
R.41	,, ,, Lever with Clip .. .. .	2	4	
R.42	,, ,, ,, only .. .. .	1	0	
R.43	,, ,, ,, Clip bottom half ..			6
R.44	,, ,, ,, ,, top half ..			6
R.35	,, ,, ,, ,, bolt and nut ..			3
R.36	,, ,, ,, pivot bolt and nut ..			3
R.45	,, ,, cable .. .. .			9
R.46	,, ,, ,, Cover .. .. .	1	3	
R.47	,, ,, ,, with Cover and Adjuster	2	3	
R.48	,, ,, Adjusting Screw and Nut			6



REF. No.	DESCRIPTION.	PRICE EACH		
		£	s.	d.
R.49	Exhaust Release Control complete ..	4	4	
R.125	„ „ „ „ Lever and Clip	2	4	
R.126	„ „ „ „ Clip bottom half	1	6	
R.127	„ „ „ „ „ Top half ..			6
R.128	„ „ „ „ „ Bolts each			1
R.129	„ „ „ „ „ Pivot Bolt and Nut .. .. .			3
	Carburettor Control (see Villiers' list).			

### FRONT WHEEL AND BRAKE.

R.150	Front wheel complete with Hub Brake less Tyre .. .. .	1	0	0
R.151	Front Rim, 36 hole .. .. .	3	6	
R.152	„ Spokes, Nipples and Washers each			1
R.153	„ hub and Brake complete less Control	13	6	
R.154	„ „ Shell only .. .. .	4	0	
R.155	„ Spindle with Cones and Nuts ..	1	9	
R.156	„ Adjusting Cone .. .. .			3
R.157	„ Fixed Cone .. .. .			3
R.158	„ Spindle only .. .. .			8
R.159	„ „ Nuts, 2 per set .. each			2
R.160	„ Hub Cups, 2 per set .. each			3
R.161	„ „ Balls .. .. per set			4
R.162	„ Brake Plate with Shoes and Springs	8	3	
R.163	„ „ „ only, less Shoes ..	4	3	
R.164	„ „ „ Shoes complete with Linings	3	8	
R.165	„ „ „ Linings and Rivets per pair	2	0	
R.166	„ „ „ Shoe Springs .. each			3
R.167	„ Hub Dust Caps, 2 per set .. each			1
R.168	„ „ „ Felt Washer .. ..			1
R.169	„ „ „ Grease Nipple .. ..			3



## REAR WHEEL BRAKE AND TRANSMISSION.

REF. No.	DESCRIPTION.	PRICE EACH.		
		£	s.	d.
R.170	Rear Wheel complete with Brake and Socket	1	10	0
R.171	"    Rim, 40 hole .. .. .		3	6
R.172	"    Short Spokes, Nipples and Washers			1
R.173	"    Long Spokes, Nipples and Washers			1
R.174	"    Hub with Brake and Sprocket ..	1	2	6
R.175	"    "    Shell only with Sprocket ..		12	0
R.176	"    "    Spindle with Cones and Nuts		1	10
R.177	"    "    "    only .. .. .			9
R.178	"    "    Adjusting Cone .. .. .			3
R.179	"    "    Fixed Cone .. .. .			3
R.180	"    "    Spindle Nuts, 2 per set each			2
R.181	"    "    Cups, 2 per set .. each			3
R.182	"    "    Balls .. .. . per set			4
R.183	"    "    Dust Caps, 2 per set .. each			1
R.184	"    "    Felt Washer .. .. .			1
R.185	"    Brake Plate complete with shoes and Springs .. .. .		8	3
R.186	Rear Brake Plate only less Shoes ..		4	3
R.187	"    "    "    Anchor Pin, Nuts and Washers .. .. .			6
R.188	Rear Brake Shoes complete with linings		3	8
R.189	"    "    Lining and Rivets per pair		2	0
R.190	"    "    Shoe Springs .. .. each			3
R.191	"    "    Cam Lever .. .. .			6
R.192	"    "    "    Nut and Washer .. .. .			2
R.193	"    "    Control Rod .. .. .		1	6
R.194	"    "    "    "    Adjusting Nuts each			3
R.195	Freewheel .. .. .		2	9
R.196	Pedal Chain, $\frac{1}{2} \times \frac{1}{8}$ 96L .. .. .		3	3
R.197	Transmission Chain $\frac{1}{2} \times \frac{3}{16}$ 112L .. .. .		4	8
R.198	Chain Adjusters, 2 per set .. each			4
R.83	Jockey Sprocket .. .. .		1	8
R.199	"    "    Plate .. .. .			4
R.84	"    "    Spindle .. .. .			3
R.200	"    "    "    Split Pin .. .. .			1

## ACCESSORIES.

REF. No	DESCRIPTION	PRICE EACH	
		£	s. d.
R.201	Saddle, large Spring Seat .. .. .	8	6
R.202	Bulb Horn .. .. .	2	3
R.203	Tyre Inflator, 15 x $\frac{7}{8}$ celluloid .. .. .	1	8
R.204	Licence Holder .. .. .		10
R.205	Toolbag .. .. .	1	6
R.206	Tubular Spanners (3) and Tommy Bar ..	1	0
R.207	Sparking Plug Spanner .. .. .		6
R.208	Grease Gun .. .. .	1	6



ACCESSORIES

PRICE EACH

## Guarantee.

REF. No.

We give the following guarantee with our Auto-Cycles, in place of any conditions, warranties or liabilities, statutory or otherwise. No statement contained in this catalogue or other publication shall be construed as enlarging or over-riding this guarantee. Machines which have been used for "Hiring Out" or competition purposes, or from which our trade mark, name or manufacturing number has been altered or removed are not covered by this guarantee.

Specialities, component parts or accessories not manufactured by ourselves are excluded from this guarantee.

Any machine from which the silencing system, as fitted, has been partially or wholly removed or interfered with, is also excluded from this guarantee.

We guarantee, subject to the conditions mentioned, that all reasonable care has been taken to secure excellence of materials and workmanship. This guarantee is to extend and be in force for six months from the date of retail purchase. Damages for which we accept responsibility are limited to the free supply of a new part in exchange for the part of the Auto-Cycle which may have proved defective. We undertake, subject to the conditions given below, to make good at any time within six months any defect in these respects. This guarantee does not apply to defects caused by wear and tear, misuse or neglect.

### CONDITIONS OF SALE.

If a defective part should be found in our Auto-Cycles, it must be sent to us carriage paid and accompanied by an intimation from the sender that he desires to have it repaired free of charge under our guarantee, and he must also furnish us, at the same time, with the number of the machine, the name of the dealer from whom purchased, and the date of purchase.

Failing compliance with the above no notice will be taken of any part which may arrive, but such articles will lie here at the risk of the sender, and this guarantee, or any implied guarantee shall not be enforceable.

### AGENTS.

We do not appoint agents for the sale of our Auto-Cycles or other goods. We assign to dealers who carry on business on their own account. A dealer purchasing from us, or a sub-dealer purchasing from him, may on our behalf (as agent for this purpose only) give the guarantee printed above.

Any such dealer is not authorised to advertise, incur any debts, or transact any business whatsoever on our account; nor is he authorised, so as to bind us, to give any warranty or make any representation on our behalf save as aforesaid.

We guarantee only those machines which are bought either from us or from a dealer or sub-dealer and under no other conditions.