

WE OFFER this range of Controls with confidence that they are of good quality and easy to manipulate. They are the outcome of long experience in knowing what Motorcyclists require and meeting the demands from manufacturers of Motor Cycles.

The usual finish is in chromium plate.

The Controls here described are all for operating flexible transmissions by means of an outer cable with an inner wire where the control lever pulls the wire against a return spring, viz., the control levers are not of the push-pull type.

TWIST GRIPS

For CARBURETTOR THROTTLES.

These are made in two types:—
One, the type 16, which is easily fitted by anyone provided there is the requisite amount of straight on the end of the Bar and the cable is external.
The other type 51 with internal cable is a neat fitment but requires some simple workmanship to the end of the Bar and it is, therefore, more suitable for supply as an integral part of a Handlebar.
Both types provide a comfortable grip on the Handlebar and operate with an easy movement of the wrist but the Racing type gives a slightly quicker opening.

LEVERS (Double and Single)

For THROTTLE-AIR-IGNITION CONTROL

These double levers are of exceedingly good design and are well made. Each lever is independently adjustable for friction to suit the touch of the individual driver and once set to his liking, the movement of one lever does not disturb the setting of the other as they are separated by a plate securely anchored to the base.
These double levers may be used for various combinations of purpose: throttle and air control or—ignition and air when a Twist Grip controls the throttle, etc.
They can be attached to handlebars of 1" and $\frac{7}{8}$ " diameter as described overleaf or fitted to a plate as illustrated here which can be screwed to the woodwork in a motor launch or of a stationary engine plant.

LEVERS

For BRAKES, CLUTCHES, EXHAUST VALVE LIFTERS.

We make a useful range of levers for these purposes of substantial design, elegant in appearance and easy and comfortable to operate.
The design permits of a reasonably straight pull on the wire and the size of the wire nipple is adequate to make a secure fastening.
Clutch and Brake Levers are made separately or made in combination with Carburettor or ignition levers.
Levers with ratchet device may be available on application.
Trigger levers are made for exhaust valve lifters.
For pedal cycle brakes a suitable lever is made.

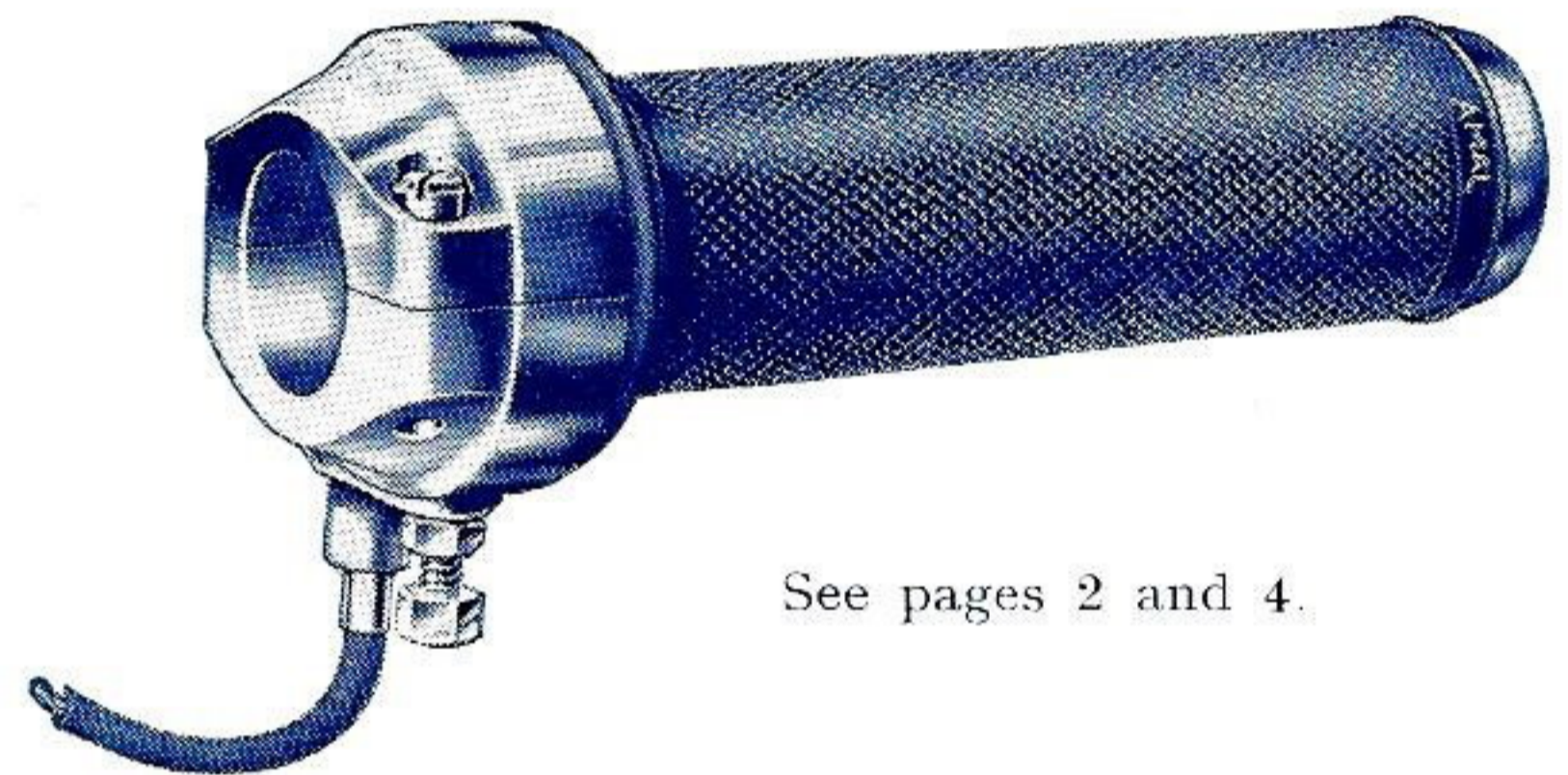
CABLE and NON-FRAY WIRE

These Cables are very flexible and weather proof. The non-fray wire has every advantage in strength and in handling: it can be cut to length without previous soldering, which is a boon to the owner, the fitter and the stockist alike.

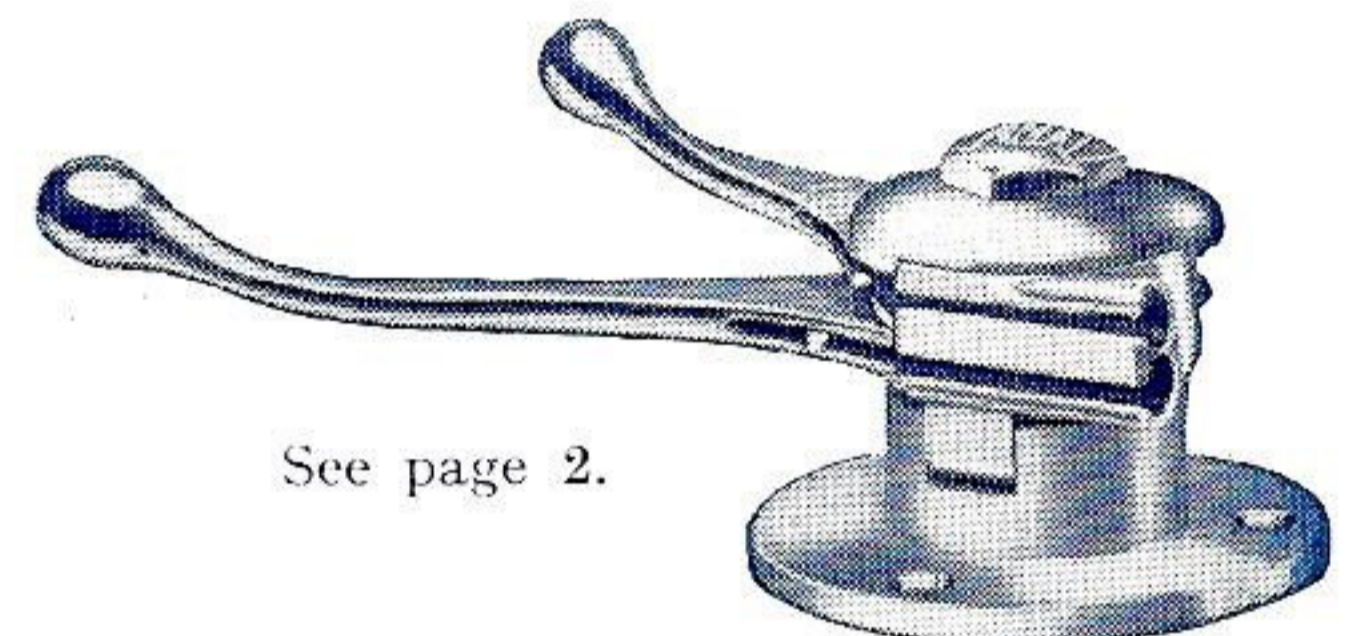
AMAL

CONTROLS

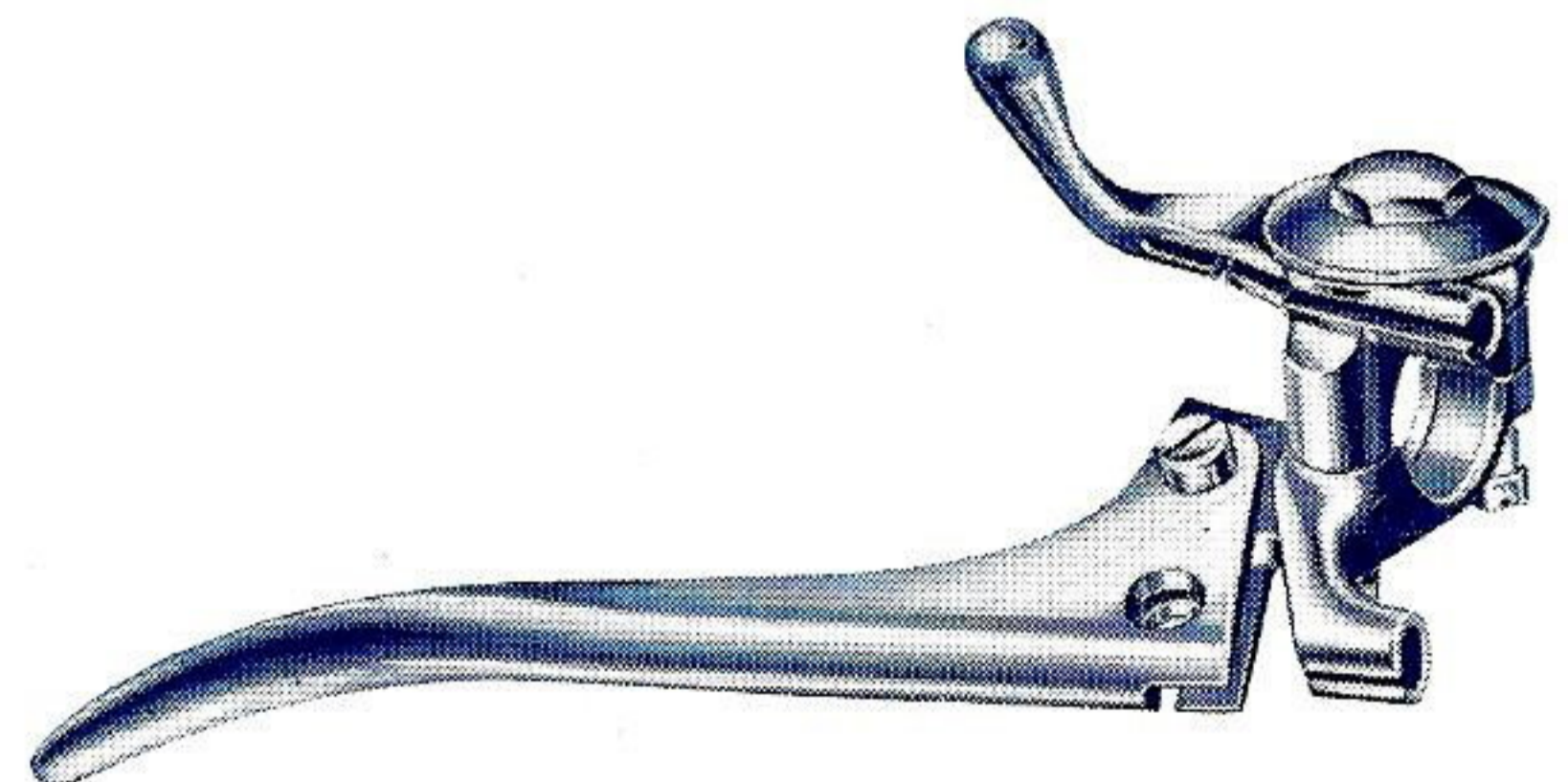
for
MOTOR CYCLES, MOTOR BOATS, MOTOR MOWERS, Pedal Cycles.



See pages 2 and 4.



See page 2.



See page 3.



AMAL LTD., Holdford Road, Witton, BIRMINGHAM, 6 ENGLAND.

TELEPHONE: BIRMINGHAM, BIRCHFIELDS 4571 (P.B.X. 6 lines). TELEGRAMS: AMALCARB (PHONE), BIRMINGHAM. 500/10/58. W.

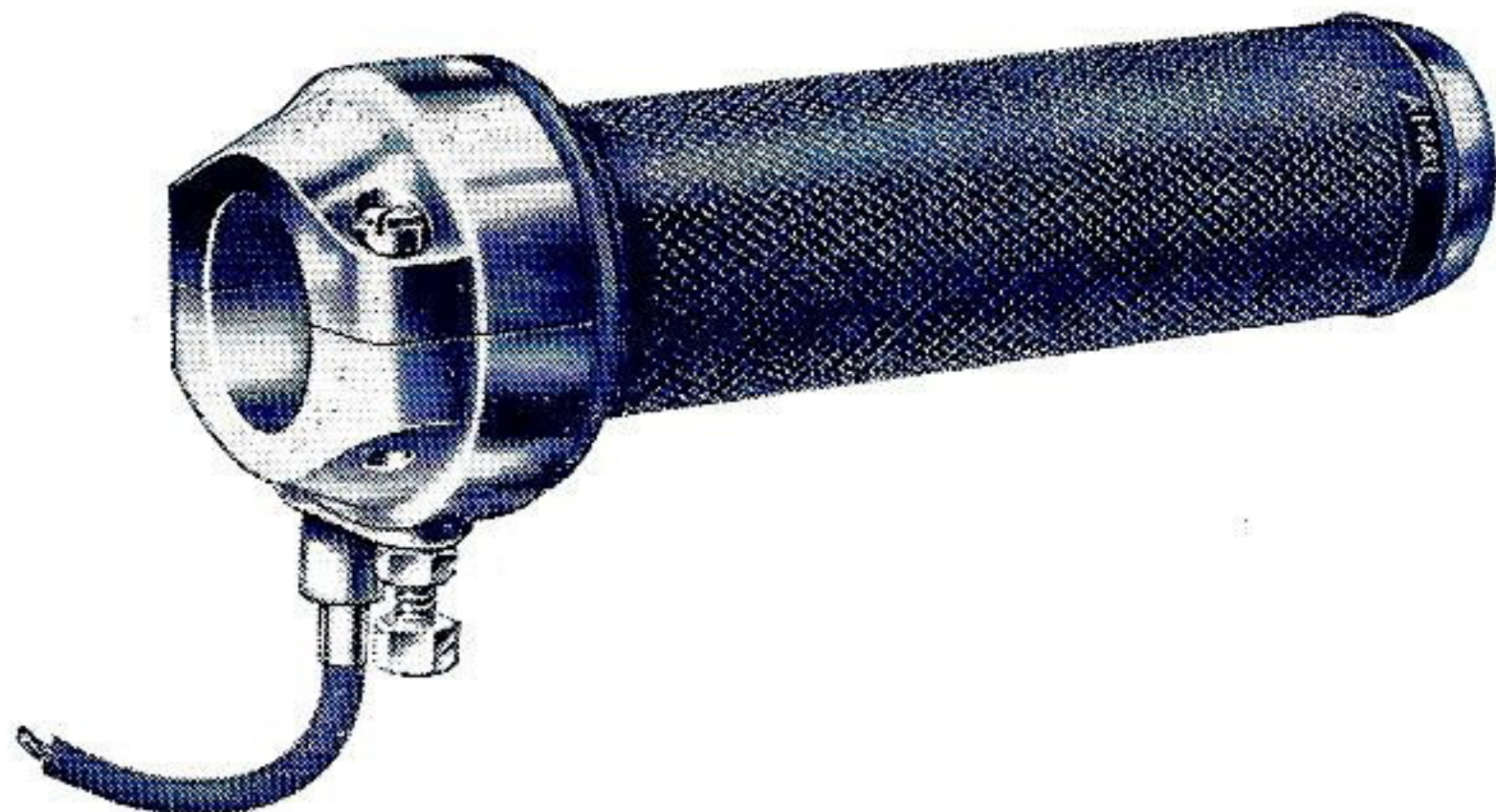


TYPE 16 TWIST GRIPS

WITH EXTERNAL WIRE.

Can be used with an inverted lever on the end of the bar.

Made to fit bars of 1" or 7/8" dia. and will so fit bars of 25 and 22 mm.



Each size has two lengths:—

LONG, overall length about 7 3/8" (187 mm.) and SHORT, 6" (152 mm.), and to fit properly there must be at least those lengths of straight and smooth diameter on the end of the bar.

TYPE 16.

SPECIFICATION for Handlebars of—	1" dia.	7/8" dia.
Approximate dia. of hand grip	1 1/8"	1 1/8"
To open inwards on right hand bar. LONG	16/102CE	16/121CE
SHORT	16/100CE	16/117CE
To open inwards on left hand bar. LONG	16/110CE	16/119CE
SHORT	16/108CE	16/123CE

The rubber grips on the above have closed ends but if open ends are required specify the type numbers without the letters "C.E." See note*.

These Twist Grips are ideal for operating the throttle of any touring or sports machine. They are easy to fit, simply sliding over the end of the bar and have a smooth direct pull on the throttle.

The Design provides a rubber grip mounted on a sleeve that turns on the handle bar. At the end of this sleeve there is a drum around which the cable is pulled. The drum turns freely in the two halves of the housing that clamps on to the bar and holds the Twist Grip in position. A friction device is enclosed in the lower half of the clamp, the tension of which may be regulated by the hexagon headed screw.

The amount of twist to open a throttle is convenient for an easy motion of the Rider's wrist, viz., a 1/4 turn through 90°, gives a control wire travel of 1" with a maximum pull of 2" which is the working limit. The wire comes into the Twist Grip at right angles to the bar but it may be neatly looped up. The action of the Grip is to pull the wire only and a spring must be provided in the Carburettor to close the throttle as the hand moves the grip into the closed position. The wire nipple and distance from Cable end is the same for our control levers, so a standard control cable will interchange between these two forms of standard controls. To assemble the wire the top half of the clamp must be removed. Use generally outer cable No. LB1 and inner wire .062 and nipple 12/034

DUMMY GRIPS

TO MATCH TYPE 16 TWIST GRIPS.

SPECIFICATION for Handlebars—	1" Dia.	7/8" dia.
LONG TYPE ..	16/039	16/074
SHORT TYPE ..	16/040	16/069

*The closed end model is standard and available but the end can be cut out if necessary when open ended types are not available on request or to order.

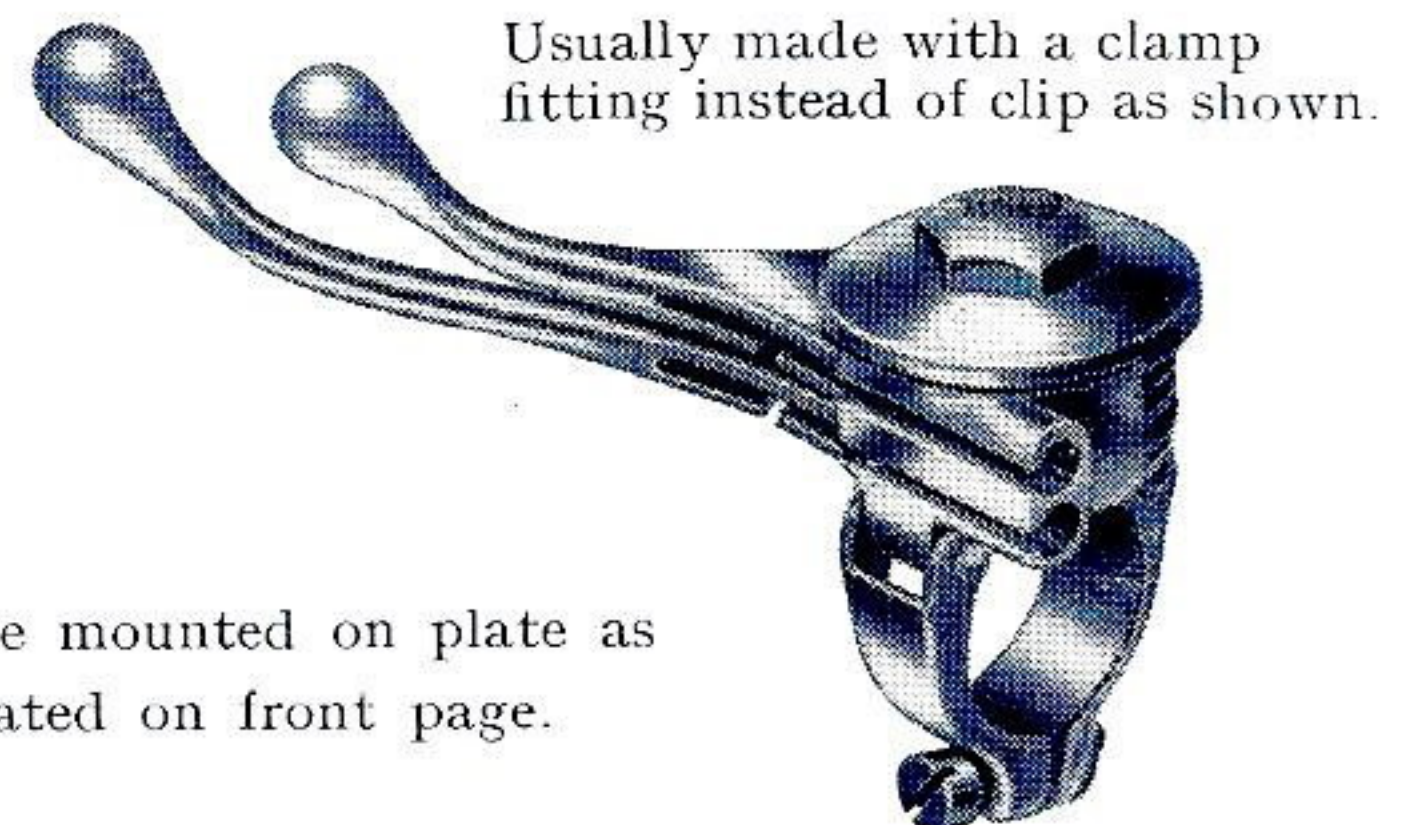
CONTROL LEVERS

DOUBLE LEVER

For 1" (25mm.), 7/8" (22mm.) dia. Bars.

Maximum pull on wire 1 1/8" (42.8mm.) where a quarter turn of the lever pulls 1/8" (23.8mm.).

Levers are made to open inwards and outwards on either side of the bars and are specified below.



Usually made with a clamp fitting instead of clip as shown.

Can be mounted on plate as illustrated on front page.

To pull or open inwards on the right hand of a handlebar clamp fitting—

	For 1" bar.	7/8" bar.
Bottom lever, 4", and top lever, 3" long ..	12/142	12/140
Bottom lever, 3", and top lever, 2 1/2" long ..	12/143	12/141.

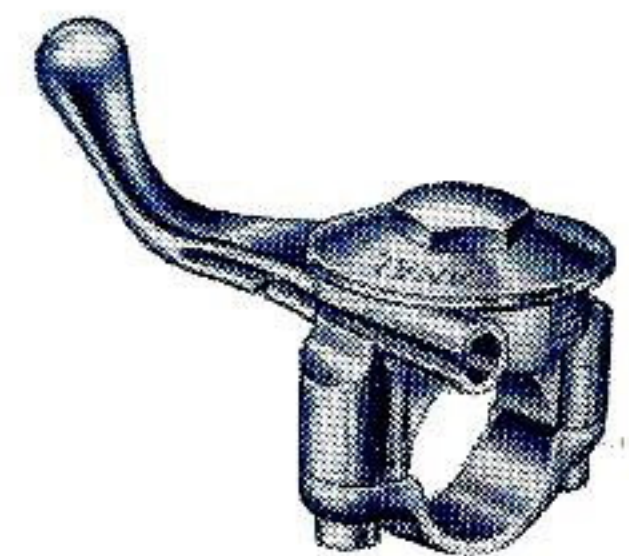
To pull or open inwards on the left hand of a handlebar—

Bottom lever, 4", and top lever, 3" long ..	12/152	12/150
Bottom lever, 3", and top lever, 2 1/2" long ..	12/153	12/151

If the opposite motion is required on either bar, change the above specification about.

SINGLE LEVER

Similar in design to double lever above.



To pull or open inward, on a right-hand bar—

	For 1" bar.	7/8" bar.
Lever 3" long	12/162	12/160
Lever 2 1/2" long	12/163	12/161
Lever 2 1/2" long, and slower action than standard	12/526	12/524

To pull or open inward on a left-hand bar—

Lever 3" long	12/172	12/170
Lever 2 1/2" long	12/173	12/171

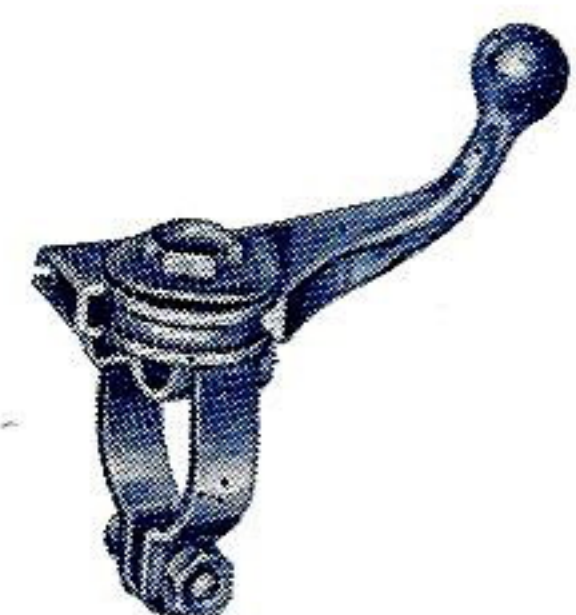
SINGLE LEVER

for small bore carburettors.

Maximum pull on wire 1" (25mm.)

Length of lever 2 7/8".

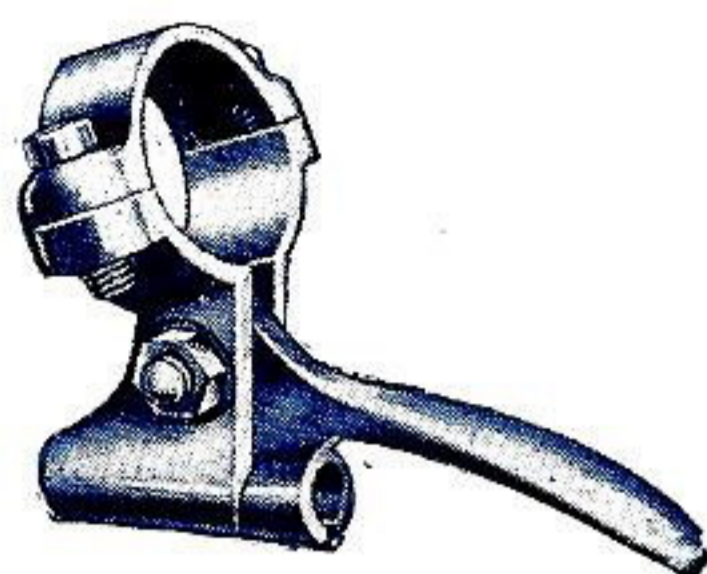
For 3/8" (19 mm.) dia. bar ...	355/5
For 7/8" (22 mm.) dia. bar ...	355/1
For 1" (25 mm.) dia. bar ...	355/6



AMAL

TRIGGER LEVER

SHORT LEVER.
LONG LEVER.



This is intended for light work such as lifting an exhaust valve or operating a decompressor on a two stroke engine giving maximum movement with minimum effort.

Short Lever, 2 1/4" (Max. pull, 1/2")	..	For bars	1" dia.	7/8" dia.
Long lever, 3 1/4" (Max. pull, 1/2")	..	type ..	18/282	18/454
		type ..	18/283	18/453

All levers use wire nipple 40/058 which would normally take inner wire No. 075 and outer cable LB3L.

INNER WIRE & OUTER CABLES

The Amal inner wire is made in various diameters and has a particular value because it is so made that it does not require soldering before cutting, which fact greatly facilitates the fixing of nipples in position, also short lengths can be cut from stock coils.

When the nipples are being soldered to the wire, see that the solder runs through the nipple but only just enough to be seen. Hammer the wire ends over to spread them out and put a cap of solder on them so that they cannot close in again under the pull of the wire.

Never file the solder on the wire to make the nipple fit the lever as you may cut a strand of the wire.

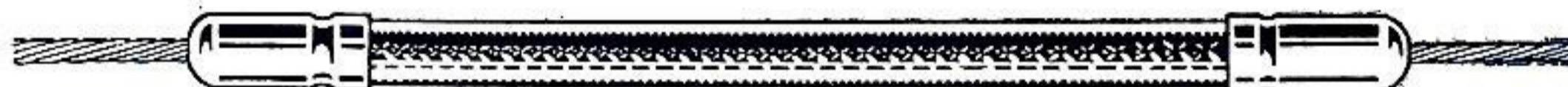
The outer cable is black. It is good quality: viz., incompressible and flexible, but use as big bends as possible.

LIST PRICES FOR BULK QUANTITIES (IN COILS)	Inner Wire.	Outer Cables.
	Dia.	No.
	.050	for LBO
	.062	" { LBI
	.075	" 120
	.084	" LB3L
	.113	" 313
		" 414

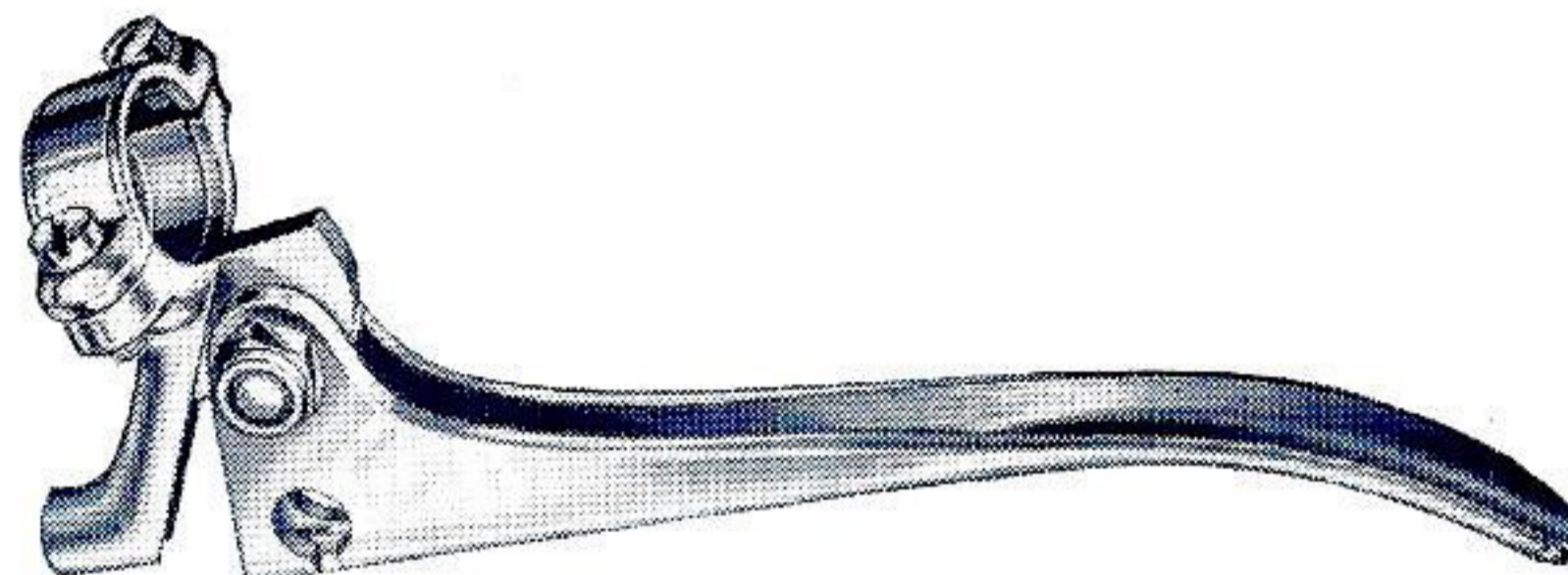
BUT FOR FULLER INFORMATION:—

- Complete transmissions made up of various lengths of Amal non-fray wire and black outer cable.
For motor-cycle controls see list 336.
For pedal cycle brakes see list 419.
- Outer cables and inner wires in bulk coils see list 336.
- Outer cable ferrules and inner wire nipples see list 438.

NOTE.—AMAL NON-FRAY INNER WIRE IS MORE FLEXIBLE THAN PIANO WIRE BUT IT DOES NOT PUSH: It pulls and there must be a return spring on the mechanism to pull the wire back on the return stroke of the lever.



CLUTCH OR BRAKE LEVER



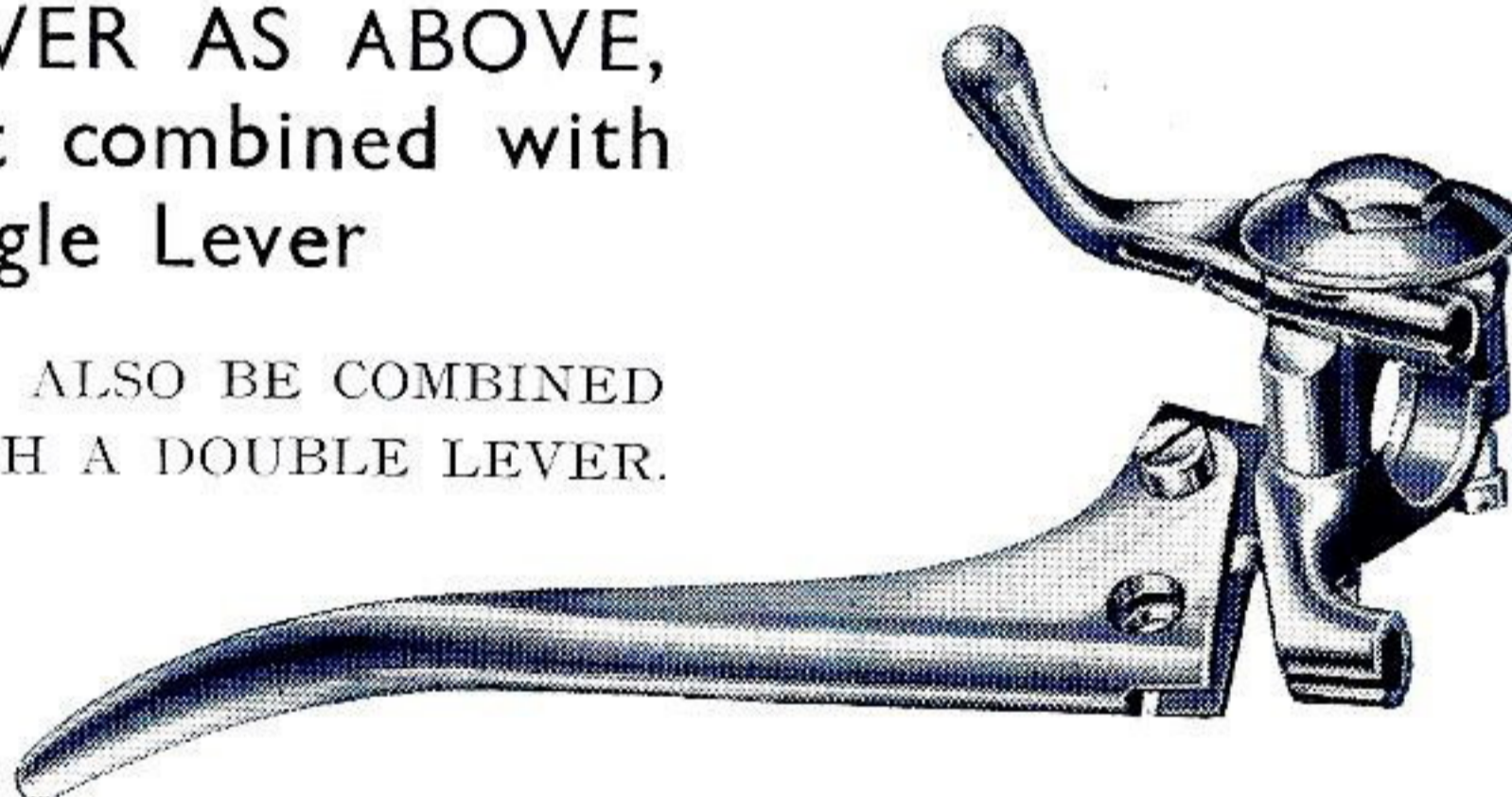
This has a beautifully shaped lever of pressed steel, which gives a maximum pull of 3/4" (19 mm.).

The wire nipple is No. 18/088, but drilled for the wire size to be specified, usually for .075 or .084 wires.

	Handlebar diameter	1"	7/8"
Left hand bar lever types	..	18/546	18/556
Right hand bar lever types	..	18/547	18/557

LEVER AS ABOVE, but combined with Single Lever

CAN ALSO BE COMBINED
WITH A DOUBLE LEVER.



This lever is as above, but it has combined with it a single lever that may be used for a carburettor control or ignition advance and retard. The clamp bracket is not the same as above but made so that the standard control lever base forms the clamp to grip the bar.

The wire nipple for the lever is 18/088 but drilled for the wire size to be specified, usually for .075, .084 wires where the pull is about 3/4" (19 mm.) when the lever is on a straight bar. See control lever details for wire and nipple.

	Handlebars	..	1" dia.	7/8" dia.
2 1/4" Top control Lever pulling inwards—				
On left hand bar	..	18/529	18/544	
On right hand bar	..	18/530	18/548	

A double control lever can be fitted.

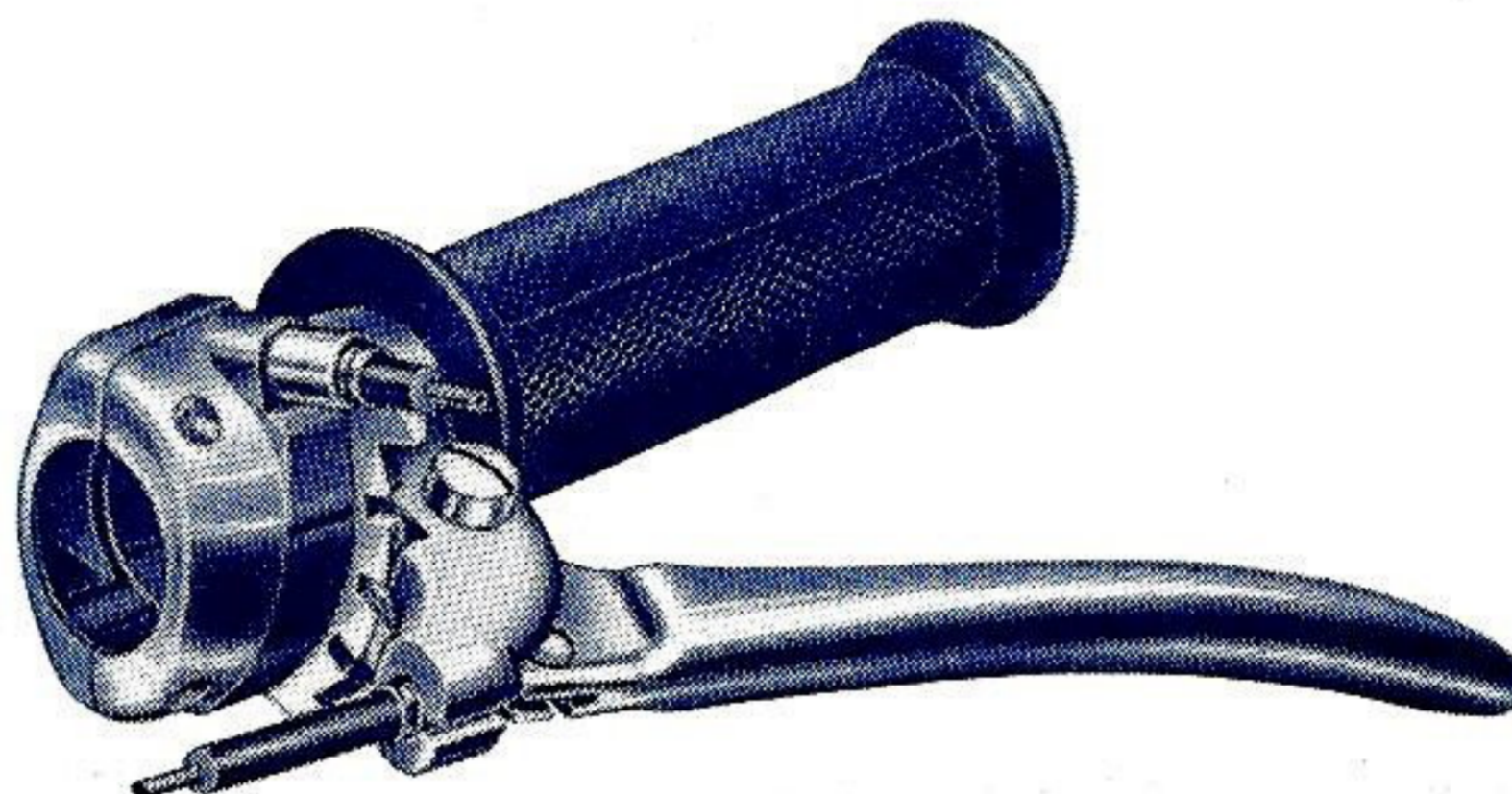
GUARANTEE.—The Company take all possible reasonable care in the manufacture and the quality of their products. Purchasers are informed that, any part proved to be defective in manufacture or quality, and returned to the works within six months of its purchase new, will be replaced. The Company must respectfully point out however, that its responsibility and that of its agents, stockists and dealers, is limited to this Guarantee, and that they cannot, under any circumstances, be held responsible for any loss or for any contingent or resulting liability arising through any defect. These conditions of sale and use also apply when the Company's products form part of the original equipment of machines purchased new.

AMAL

CLUTCH LEVER AND GEAR CHANGE

COMBINED TYPE 367

(for fitting to original equipment).



This control, which fits a $\frac{7}{8}$ inch diameter handlebar, has a neat and compact appearance and gives single hand operation of both clutch and gear change. In operation when the clutch lever is depressed it disengages from a notched gear position control plate allowing the grip and lever combined to be rotated actuating the gear change cable and is re-engaged in its new position on the control plate when the clutch lever is released. This type of control is available to suit the following machines :—

Mercury "Mercette" fitted with a 48 c.c. Mercury Engine.

Mercury "Dolphin" fitted with a 98 c.c. Villiers Engine.

Hercules "Her-cu-motors" Mk. I and Mk. II fitted with 49 c.c. Jap Engines.

Controls suitable for other machines can be supplied to manufacturers specifications.