AMAL TWIST GRIPS with Internal Wire and Straight Pull.

MAXIMUM PULL ON WIRE 1 7/16" (36.5 mm.) WHERE A QUARTER TURN OF TWIST GRIP PULLS 15/16" (23.8 mm.). MADE ONLY TO OPEN INWARDS ON RIGHT HAND BAR. IF FITTED TO THE LEFT HAND BAR, WILL OPEN OUTWARDS.

This type is intended for manufacturers as the handlebar ends require slotting and drilling before the Twist Grips can be fitted. This fitting cannot easily be done by an amateur but requires the skill of a mechanic.

The principle on which the design of both is based is that the inner wire is pulled in one direction and the outer cable is pushed in the other, and the effective pull on the wires is these two movements added together : The outer cable, therefore, has to move and provision has to be made for this by having its entrance a sliding fit into the handlebar at a point chosen for neatness as far away as possible from the Twist Grip to avoid internal bends. The entrance hole 3/32" diameter should be preferably in the outer bend of the bar.

Use Amal Outer Cable No. 111, and Inner Wire 062, and Nipple 12/034, and where the Cable and Wire are in position the distance from the end of the Outer Cable ferrule to the near side of the Wire nipple must be 1/4", viz., 3/4" bare wire showing, when the Cable is in its final position allowing for free movement of the bar, the throttle closed with the Cable Adjusting screw right down and the end of the Cable being midway in the slot.

The Cable end and the Wire Nipple each fit into a sliding piece ; both these pieces slide in a channel provided with the Twist Grip to fit in the slot in the bar. Each sliding piece has a helical tooth projecting outwards and these teeth enter a V shaped helical slot cut inside the Twist Grip. When the Twist Grip is rotated inwards the V of the helical slot acts like a wedge and so the slides are forced apart, the V shape of the helix widening the distance between the outer cable end and the nipple. When rotating the other way, the slides come nearer together and the return spring in the Carburetter closes the throttle, keeping the inner wire in tension.

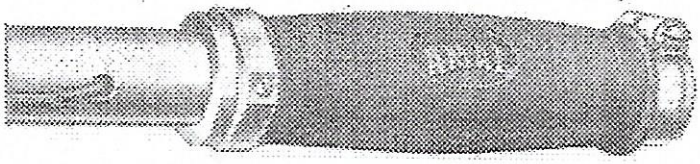
When all is fitted any back lash in the Cable, with the throttle shut, can be taken up by the adjusting screw in the Carburetter.

TYPE 108 for 1in. BARS

Diameter of grip 1 7/16", overall length 5 9/16", requiring a minimum length of 6" of absolute straight on end of bar.

PRICE **16s. 0d.** each.

INVERTED LEVER AT END OF BAR CAN BE USED



This illustration shows how NOT to bring the Cable into the bar as the cable is bent sharply too near to the Twist Grip and its free movement would be prevented.

To prevent the return spring in the Carburetter (or other) from shutting off by itself, a friction device is incorporated, the tension of which is adjusted by the grub screw in the boss on the left.

At the end of the bar on the right is a split collar which fits over the extreme end of the slotted bar and tightens up on to an inverted lever or a plug as shown. This collar has a projection on it which fits into the slot to locate it and also acts as a stop to limit the amount of rotation of the Twist Grip by operating in a cut-away portion at the end of the tube that turns on the bar.

To fit the Twist Grip one slot should be cut in the end of the bar on the top only, the slot being 1/8" wide and 5" long, leaving a gap at the bar end (*see blueprint 108/111*).

A 1/16" hole also has to be drilled in the bar to admit the Cable which should now be inserted.

To assemble : slide the friction collar over the bar, pull the cable and wire up out of the slot, insert the channel with the slide guide in the slot, with the cable in the slide guide. Fix the slides—the long one over outer cable and the short one over the wire nipple and place in the guide each side of the stop in the middle of the channel. Grease all well and push on the grip with the bare tube end first so that its long internal slot goes over the projecting teeth of the slides, then twist till the teeth engage in the V helix cut in the twist grip.

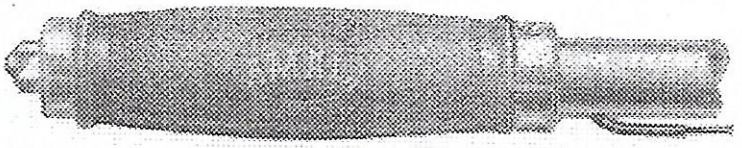
Now fit the split collar at the bar end, insert the plug or inverted lever and tighten up. Then slide the friction collar over the bare end of the twist grip and secure with the two grub screws opposite one another.

TYPE 51 for 7/8 in. BARS

Diameter of grip 1 3/8" and overall length 5 1/2", requiring a minimum length of 6" absolute straight on end of bar.

PRICE **11s. 0d.** each.

INVERTED LEVER AT END OF BAR CANNOT BE USED



This illustration shows how NOT to bring the Cable into the bar as the cable is bent sharply too near the Twist Grip and its free movement would be prevented.

To prevent the return spring of the Carburetter (or other) from shutting off by itself a friction device is incorporated. The collar held by a pin through the bar as seen on the right is conical inside and takes the conical end of the tube on which the rubber is mounted. The pressure on the cone is adjusted by the hexagon nut at the end of the bar on the left which presses the end plug towards the grip through a spring washer. When the correct pressure is found tighten up the grub screw in the plug.

To fit the Twist Grip one slot on the top of the bar has to be cut 3/8" wide, 4" long, starting 1/16" from the end of the bar. Two holes have now to be drilled through the centre of the bar, at right angles to the slot, one 0·161" dia. (No. 20 drill) for the friction ring, 4·81" from the end and on the centre line of bar, and one 0·154" dia. (No. 23 drill) for hinging cantilever 3·56" from bar end and ·012" above the centre line of the handlebar (upwards towards the slot). *See blueprint 51/307.*

To assemble fix the friction collar on the bar and pass the cable end into and out of the slot in the bar, now hinge the slide cantilever on a pin through the bar with the channel upwards, fit the long slide over the cable and the short one over the wire, and place them in the channel, teeth upwards, close up to each side of the dividing stud, and grease well.

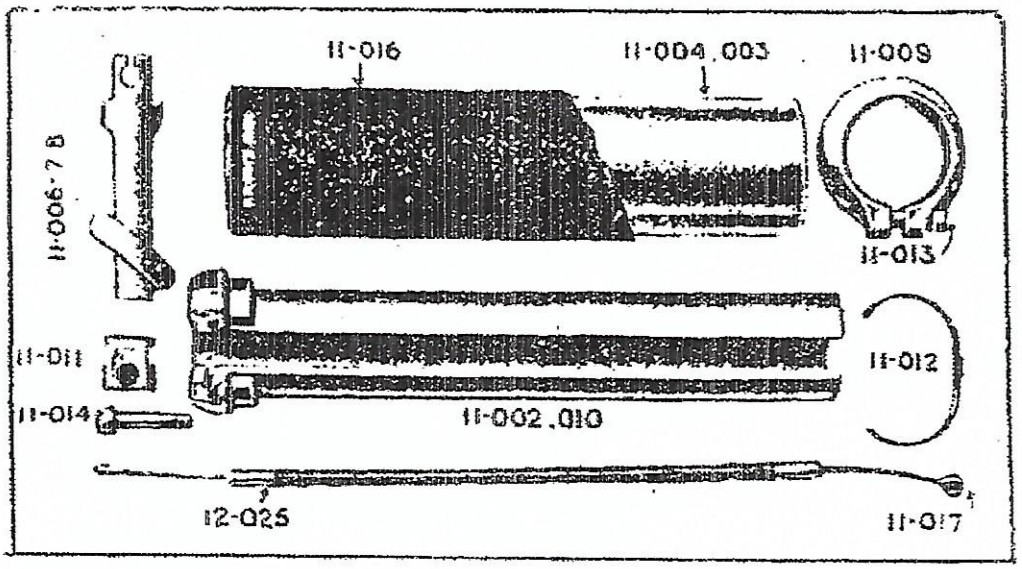
Drop the cantilever and slide the twist grip on the bar conical end first, into the friction collar, press up firmly the projecting screwed end of the cantilever and twist the grip round slowly till the cantilever jumps up and engages the teeth on the slides into the V helix cut inside the Twist Grip, slide the plug into the bar end over the cantilever thread and put the hexagon nut on the thread, adjust the tension and lock with the grub screw.

DUMMY RUBBER GRIPS to match above.

PRICE **1s. 6d.** each.

1" Bar, short (4 3/4"), type 98/011, 7/8" bar, short (4 3/4"), type 91/011.
1" Bar, long (5 5/8"), type 98/010. 7/8" bar, long (5 5/8"), type 91/010.

1929-30 Amal Twist Grip

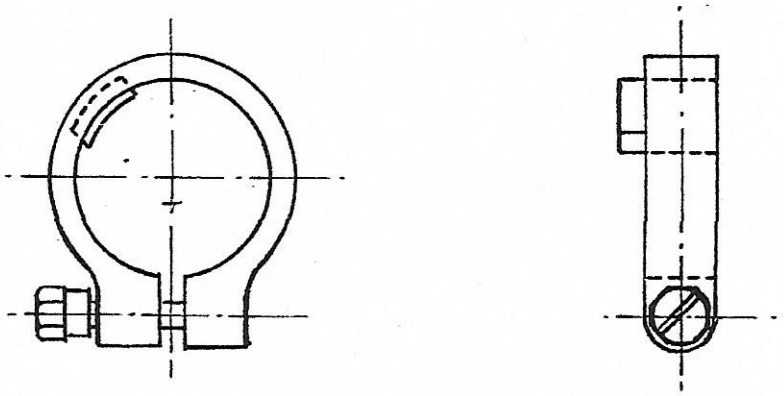


1929 AND 1930 AMAL TWIST GRIP.

AMAL TWIST GRIP PARTS. (1928 Standard Models). STRAIGHT PULL TYPE.

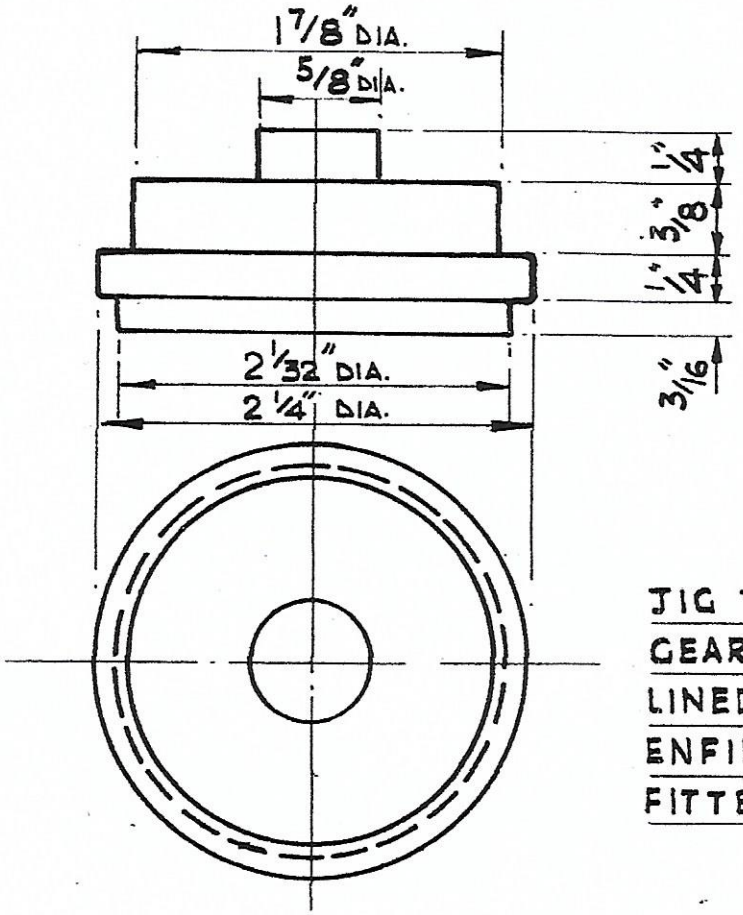
Component	Number	Price
Inner Sleeve and Rear Clip	(long 11/001 and 010) (short 11/002 and 010)	3 3
Outer Sleeve complete	(long 11/004 and 003) (short 11/005) ...	3 3
*Slide Strip, Key and Nipple Carrier R.H.	11/022R.	1 0
*Slide Strip, Key and Nipple Carrier L.N.	11/033L.	1 0
Rear Clip	11/009	1 9
Cable Stop	11/011	9
Spring	11/012	4
Pin for Rear Clip	11/013	3
Pin for Front Clip	11/014	3
Rubber Grip	(6½-in long 11/015) (5-in short 11/016)	1 6
Cable Nipple	11/017	2
Liner for Twist Grip	(⅞-in bar only (long 11/018) (short 11/019)	1 6
Dummy Grip ⅜-in.	(6½-in. long 11/030) 5-in. short 11/031) ...	1 6
Dummy grip 1-in.	(6½-in. long 11/033) (5-in. short 11/034) ...	1 6
Dummy Grip end cap 1-in. grip	11/032	4
Dummy Grip end cap ⅜-in. grip	11/035	4
Dummy Grip end cap closed end	11/036	4
Inner Wire	per foot	2
Outer Cable	per foot	6

* **Note.**—The illustration No. for this part is shown as 11/006-7-8



HANDLEBAR END CLAMP & TWIST GRIP STOP.

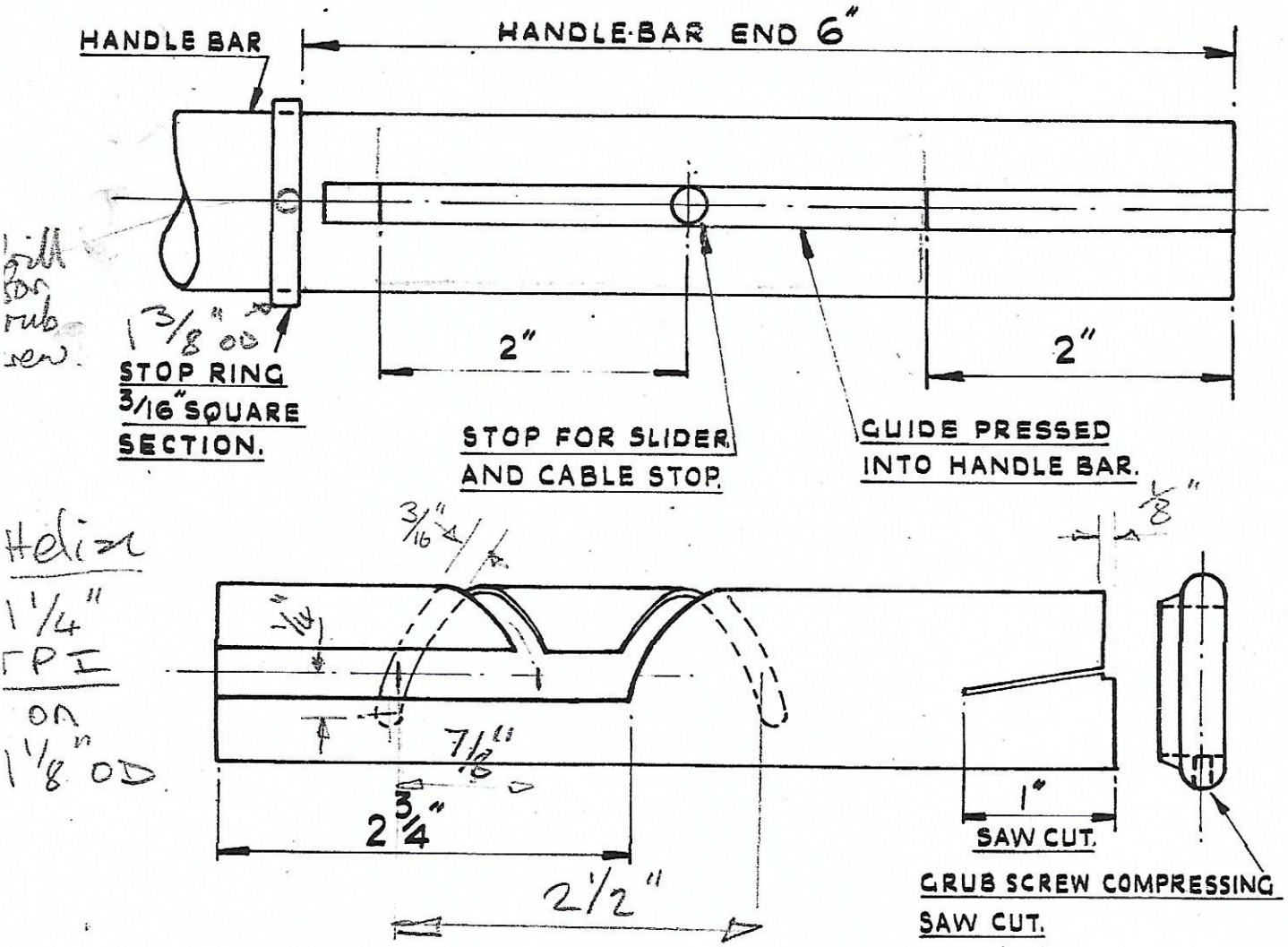
A.G.



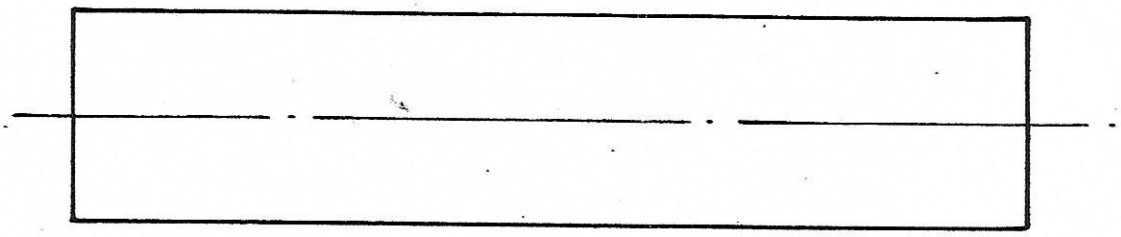
JIG TO ENABLE SPEEDO GEAR-BOX PINION TO BE LINED UP CORRECTLY ON ENFIELD J.O. REAR WHEEL FITTED TO BROUGH SUPERIOR.

A.G.

BROUGH SUPERIOR (AMAL) TWIST GRIPS.



THROTTLE TWIST GRIP INNER SLEEVE 1 1/8" O/DIA.



OUTER SLEEVE FIXED OVER INNER SLEEVE TO PREVENT RUBBER GRIP CATCHING IN THE HELICAL GUIDE.

A.G.