STARTING HANDLE ALIGNMENT AND THE COVER FLAP

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Often, on the early post war cars, the chrome flap that covers the starting handle hole is completely missing. Just as often the owner is likely to say that he has fitted a new flap only to have it fall off again. Obviously there is something wrong with the assembly or the retaining method. This article sets out to describe to owners how a lost chrome flap may be avoided and how to assemble the retaining components.

All too often owners also have great difficulty in engaging the starting handle because the front apron has been misaligned with the radiator starting handle hole or the handle guide. Even when alignment of the components is assured it can be frustrating to try and enter the starting handle without damage to other parts like the fog lamp wiring. The method of guiding the starting handle into position, which is discussed below, is not intended to counter a sagging front engine mounting, which can also cause this misaligning problem. In this instance the front engine mounting, and also preferably the rear one for safety sake, should be renewed.

Anyone attempting to replace the flap should initially make themselves conversant with the images contained in this article and in particular the arrangement of coupling the toggle and retainer. The flap is sometimes referred to as the Cuckoo flap for obvious reasons.

Fig. A. Illustrates on the left the new flap, top right the toggle retainer, and lower right the toggle spring

Fig B. Right shows the toggle retainer and toggle spring assembled.

Fig C. Shows the two pins needed to attached the flap to the bodywork and toggle mechanism.

Fig D. Shows the flap in the closed position fitted to R type B87UL

Fig E. shows the flap in the open position and also illustrates the modified starting handle guide with bronze bushing on R type B87UL.

Fig F. Illustrates the assembly off the car. Left in the open position, and right in the closed position.

Fig G. shows the open flap, the image having been taken from slightly below the level of the flap. Also shown is the sheathed electrical hardness to the centre driving lamp and the cut off top section of the modified starting handle guide together with the flap pin retention method.

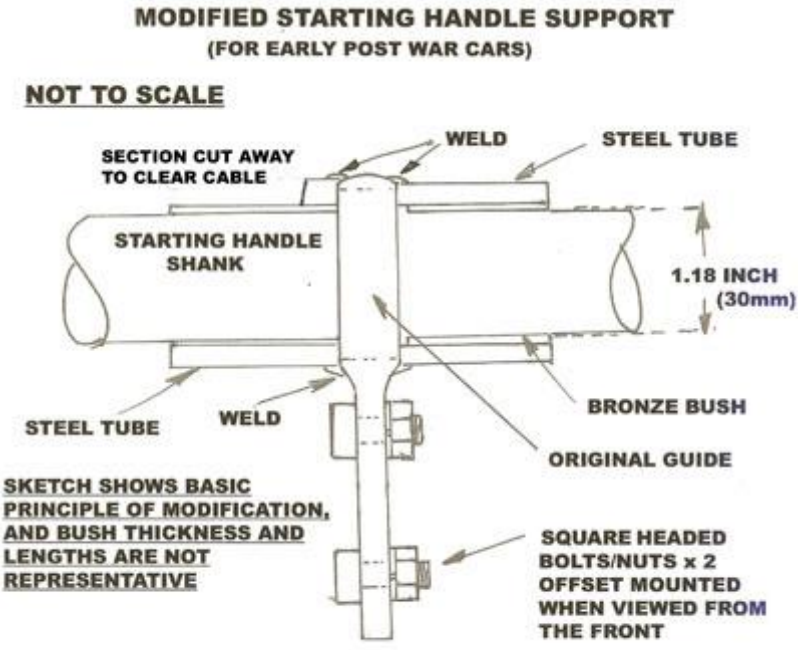

Fig H. Shows a sketch of the modified starting handle support

If it is intended to modify the starting handle guide it is preferable to carry out this procedure before fitting the chrome flap. To carry out the modification, and even to fit the chrome flap it will be found necessary to jack up the front of the car and support it securely to allow access under the front apron.

MODIFIED STARTING HANDLE GUIDE

The original starting handle guide is nothing more than a simple ring that is too large for the shank of the starting handle and is therefore no use for guiding the handle into position or providing support for the handle whilst the engine is being rotated. The modified support is basically a welded tube extension to each side of the original guide ring, the extensions being bushed to prevent rust soiling of the operator's hands. Fig E shows a view of the front guide extension, in this case fitted with a bronze bushing. This alteration see Fig H, provides very good support when the engine is turned either for service work or starting and is especially useful in providing automatic alignment of the starting handle straight into the starting dog.

On later models it may be necessary to unbolt the two horns, when they are mounted under the front apron, so that access may be gained to the working area. It is possible to support the horns temporary on wire or string without disconnecting or straining the electric wiring.

Two bolts hold the guide ring to the front extension of the chassis. This mounting position and arrangement can be seen from the underside of the apron. The nearest obstructions forwards and rearwards should be measured to each side of the guide ring and the measurements noted. For our example we will assume for this example these measurements are 1.5inch forwards and the same rearwards, but the owner must substitute his own measurements. Although the area to the rear of the guide ring may be well clear there is no advantage to be gained in making extension pieces longer than 1.5 inch. Allowance should be made in a forward direction to allow access to the front bolts that hold the chrome fog lamp mounting as these bolts are used for holding the starting handle flap toggle retainer. Once the measurements have been taken the guide ring can be undone, but because the mounting bolt holes are offset, the front side of the mounting ring should be well marked for identification purposes.

The large shanked support area on the starting handle will be approx 1.065 inch (27.06mm) diameter and from this size we can construct the support guide. Two pieces of steel tube of 1.50inch (38mm) bore by 1.50 inch (38mm) long need obtaining or turning on a lathe, the wall thickness being around 0.187inch to 0.250 inch (5mm/ 6mm). Two bushes of either bronze, stainless or nylon are then needed to be turned down to eventually fit inside the tubes, the bush sizes being 1.50 inch (38mm) (slight interference fit for the steel tube) on the outside, and bored 1.18 inch (30mm) to eventually accept the starting handle shank. It should be noted that the bush material is specifically chosen so that it does not rust; otherwise the user's hands will be soiled with rust every time the handle is used.

The 1.50 inch x 1.18 inch sized bushes are initially just pressed into the tubes some 0.750 inch, the ends opposite the bushes are then offered up to the original starting handle guide ring faces. It should be noted that the bushes are only entered in the tubes sufficient to ensure alignment and to keep them clear of the area to be welded. Take extra precautions with Nylon bushes to keep heat away. Make sure that the tube that is required to be fitted at the front of the guide ring is adjacent to the previously marked front identification, otherwise front and rear tubes pieces will be transposed. Once the tubes are loosely positioned against the guide ring, pass the starting handle through the three parts to aid lining up. After centring the parts on the shank section of the handle weld the tubes onto the original guide ring, with the handle still in place. Once the unit has cooled down finally press the bushes into the tubes, the centre section, which comprises the original guide ring, will not bear on the handle shank but the bushed tubes on each side will provide the support.

A trial fit of the unit to the chassis at this stage will most likely highlight a foul condition between the top of the welded tubes and the driving lamp electric cable. In order to clear the cable and ensure the cable is not

trapped in service it is necessary to cut off the top of the offending steel tube but leave the top of the bush largely intact. Fig G shows the cut off section in question and the cable passing over the bronze bush.

Refit the modified guide to the chassis, entering the starting handle into place to aid alignment. It may be found that packing pieces or a washer will be needed to be inserted between the guide bracket and the chassis in order to achieve a true line. Only tighten up the mounting bolts when it has been established that the starting handle is centred through the front apron, guide, grille, and radiator and is seated into the crankshaft starter dog.

When carried out correctly this modification will ensure that the handle does not foul any of the parts through which it passes.

STARTING HANDLE COVER FLAP

The main components which make up this assembly are illustrated in Fig A, B and C, however reference to Fig F will show the relative positions of all the parts when the flap is both open and closed. Close inspection will show that the long blade spring works with a toggle action, in short during the operation of the flap the assembly swings “over centre” or toggles.

The front two setscrews that secure the centre driving lamp chrome mounting foot also hold the toggle retainer or anchor. These set screws will need removing from under the front apron and the new retainer fitted, it is advisable to make sure spring washers are fitted and the threads are greased as the mounting into which they engage is alloy. If the spring washers are discarded or new screws are made it is important to be aware of the setscrew threads bottoming and damaging the mounting foot.

Examination of Fig C will show a hinge pin fitted through the pivot bore of the flap. The pin size needs choosing so that the flap itself will pivot on the pin and the pivoting action will not take place in the centre driving lamp mounting. The pin shown in Fig C is a “roll” pin or spring pin of a ‘U’ shaped section, the flap is a good but swing fit on the pin. Prising out the centre of the U sectioned pin widens the exposed ends of the pin so that the pin ends are a firm fit in the driving lamp mount. When eventually fitted the flaps have a tendency to fall and an unsightly gap appears between the flap and lamp mounting, any further failure of the retaining system will result in the flap becoming detached. If however the flap pin ends are a tight fit and the flap is pushed firmly into engagement with the mounting, followed by the application of some epoxy glue to the end pin fitting as shown in Fig G, the flap will never detach even if the retainer fails. In addition the owner will be rewarded by the excellent fit and closure line shown in Fig D. Once the anchor or toggle retainer has been fitted as described in the previous paragraph the flap pivot pin must be fitted as explained above, and held tightly in position whilst the epoxy glue sets hard.

It is important to take care to fit the flap in this position as the over centre toggle action of the final assembly depends upon the pivoting centre line of the flap pin. It is the main most reason that these flaps become detached or exhibit a gap where the flap abuts the mounting.

At this point it only remains to attach the curved toggle spring between the anchor and the flap, easier said than done, and it is helpful at this point to obtain some assistance. The toggle is first linked to the retainer as shown in the images and by inserting a large screwdriver through the starting handle guide the curved section of the toggle can be flattened out by prising upwards, this lengthens the link. At the point when the link is at its longest the helper needs to be able to insert the split pin through the link and the flap. It should go without saying that the split pin should be cut off to the correct length and have been trial fitted through the link and flap. Any attempt to trim the split pin to length in situ may result in the boss being broken off the rear of the flap.

After successfully fitting the split pin it may be necessary to further prise the curved section of the toggle upwards to form a permanent flat section on the toggle spring blade. Trial fitting of the starting handle will

determine the need to flatten the toggle spring to avoid a very heavy foul with the starting handle. Expect at least a small foul condition to occur. Originally when these toggle springs were introduced a flat section was pre-formed on the toggle blade section that contacted the starting handle, but contact it did.

This flattening of the spring needs carrying out carefully and with patience. When the adjustment is correct the flap can closed and opened smoothly and because the spring blade will toggle over centre the weight of the flap will supported when in the open position as in Fig. E and Fig. G. One final finishing touch is required, a small rubber buffer, made from say an old tyre inner tube, should be glued to the underside of the flap edge. This ensures that the flap does not toggle over onto the paintwork of the front apron causing paint chipping and subsequent rusting, or rattling when the car is driven.