

Chapter 99

SELECTOR SWITCH, HARLEY 4-WAY

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LEADING PARTICULARS

<i>Selector switch, Harley 4-way Pt. No. L85/001</i>		Ref. No. 5CW/9133
<i>Micro switchettes, Honeywell</i>		V3-9023
<i>Connection</i>		6 B.A. terminal screw
<i>D.C. rating at 28.5 volt (sea level)...</i>		10 Amp. (max.)
<i>D.C. rating at 28.5 volt (to 45,000 feet)</i>		6 Amp. (max.)
<i>Overall dimensions of switch body</i>		$1\frac{1}{2} \times 1\frac{7}{8} \times 2\frac{7}{32}$ in.
<i>Weight</i>		4.5 oz.

Introduction

1. The Harley 4-way selector switch, shown in fig. 1, is designed for controlling the operation of the Harley, Type 500 Mk. 1, landing lamp in azimuth and elevation. The switch is fitted in the rotor pitch lever of the helicopter controls and has a knob which may be readily identified by touch, a separate switch is used to control the landing lamp filaments.

DESCRIPTION

2. The switch consists basically of four Honeywell Type V3 micro switchettes mounted in an open frame and operated by a central lever, details of the switchettes are given in A.P.4343C, Vol. 1, Book 1, Sect. 2, Chap. 1. The frame consists of two side plates secured to a top plate and a base rocker block. The micro switchettes are riveted to the side plates, two to each plate, the top switch mounted vertically with spacer blocks which position it centrally between the plates and the lower switch mounted horizontally and riveted directly to the plate. The operating buttons of the top switches face inwards to the spindle of the operating lever,

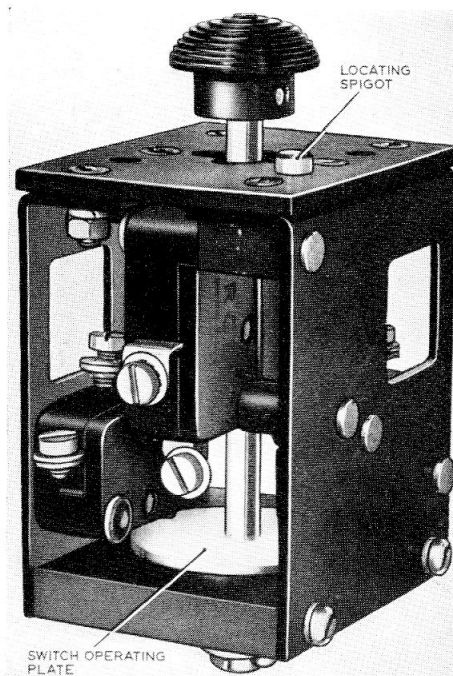


Fig. 1. Selector switch, Harley 4-way

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the buttons of the lower switches face downwards to the rocker plate of the operating lever.

3. The central operating lever has a spindle with a circular rocker plate which is held seated into a recess in the rocker block by a helical spring. The spring is held on the spindle between two plated steel washers, the upper washer is free to move down the spindle against the tension of the spring, the lower washer retains the spring on the spindle and is secured by a split pin. The top of the spindle is free to be moved in the four position slots of the cruciform cut in the top plate.

OPERATION

4. The operating lever may only be moved into one of the four positions at any one time

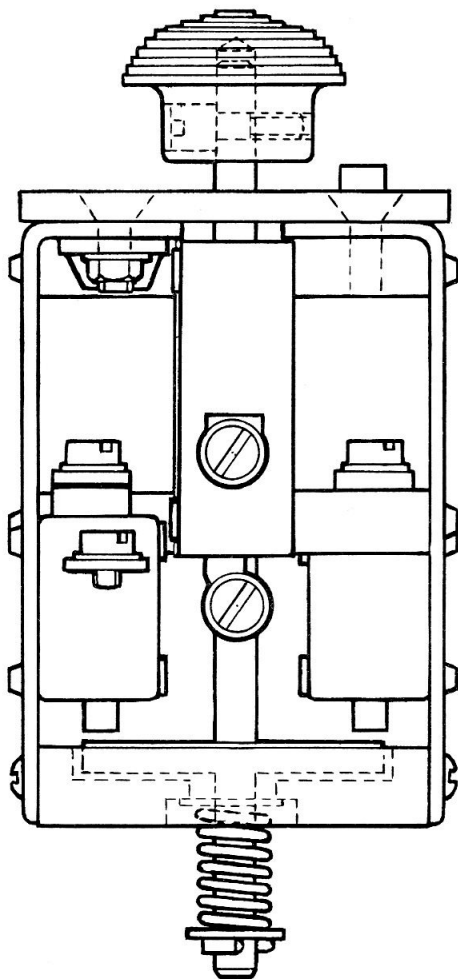


Fig. 2. Side view of switch

giving an appropriate movement of the landing lamp, i.e. extend, retract, rotate left or right. When the switch lever is moved backwards or forwards in the shorter slots of the top plate cruciform the spindle rocks in the rocker block bringing the centre of the spindle against the operating button of one of the top micro switchettes. When the lever is moved to right or left in the longer slots of the top plate one side of the rocker plate is raised sufficiently to bring it against the operating button of one of the lower micro switchettes. Though all movement of the lever tilts the rocker plate only positive selection to right or left is sufficient to raise it to operate the lower micro switchettes.

INSTALLATION

5. The switch is normally installed in the pitch lever and is secured in the lever by two 6-32 U.N.C. screws which engage in anchor nuts secured by two of the top plate securing screws. A locating spigot on the top plate ensures correct alignment in the lever.

SERVICING

6. The switch should be examined for mechanical damage or corrosion and the micro switchettes checked for correct operation and security of attachment. Individual switchettes may be renewed as required by drilling out the rivets securing the defective component and fitting the new item using $\frac{3}{16}$ in. dia. brass alloy rivets of $1\frac{1}{16}$ in. or $\frac{9}{16}$ in. length as necessary.

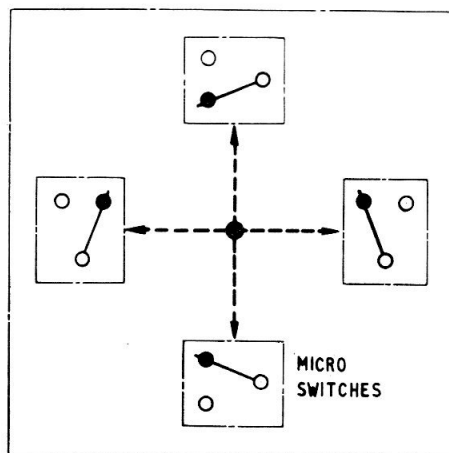


Fig. 3. Arrangement of micro switchettes

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