

Built around the well known Armstrong Telescopic Shock Absorber the Armstrong Motorcycle Suspension Unit functions as follows :—

COMPRESSION STROKE. As the Motor Cycle wheel is deflected upwards, and the road spring compresses, oil pressure opens the non-return valve in the piston and oil passes through the transfer ports in the piston from the lower to the upper part of the cylinder. The excess oil volume, equal to the displacement of the piston rod, is transferred into the reservoir through the calibrated orifice.

REBOUND STROKE. On the rebound stroke the piston valve closes and oil is forced into the reservoir through the calibrated orifice. At the same time the foot valve plate lifts and oil is recuperated to the lower part of the cylinder. General slow speed damping is accomplished by the oil passing slowly through the calibrated orifice.

BUMP AND REBOUND STOPS. Rubber bump and hydraulic rebound stops are incorporated in the unit as a positive safeguard against metal to metal contact at the limits of the compression and rebound strokes.

TWO-RATE UNIT. This is similar to the unit described above, except that two road springs are fitted in tandem. The flange of the turnable lower knurled dust cover separates these springs. When this cover is turned so that its legs are free to move up and down in the recesses of the lower spring abutment, the unit is set for solo work, both springs being operative. When the cover is turned so that the legs rest on the flanges of the abutment, the bottom spring is cut out of action and the top spring only is operative. This increases the effective spring rate with obvious advantages for pillion and sidecar work.

The ARMSTRONG unit embodies the following advantages :—

- (1) ONE WAY circulation moves ALL the oil ALL the time, thus keeping the unit cool in operation with beneficial results under arduous conditions of service.
- (2) Valve gear is simple and robust.
- (3) Working parts are reduced to a minimum.

TYPE A.T.6/7

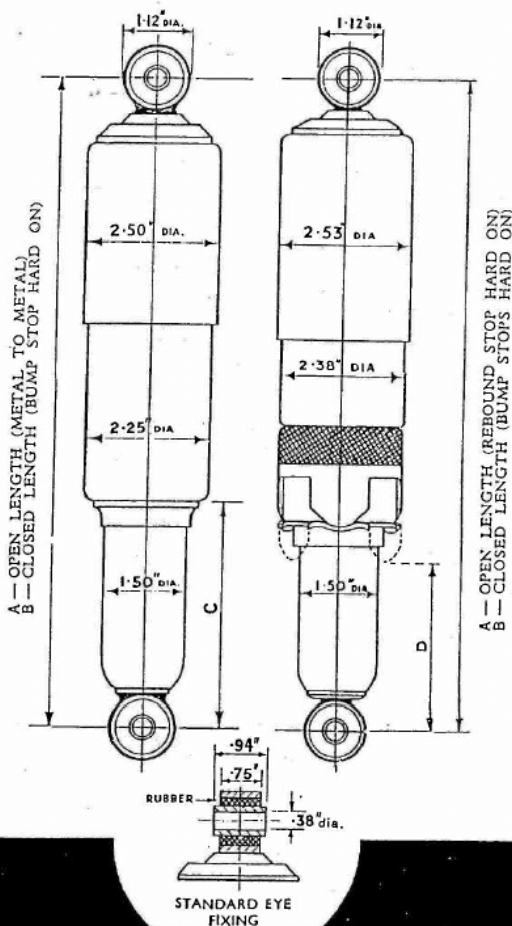
SUSPENSION SPRING DATA

Rate : lb./in.	Pre-load : lb.
1. 130	65
2. 100	50
3. 85	42.5

ANY OF THE ABOVE SPRINGS MAY BE SELECTED FOR FITTING BY THE CUSTOMER.

APPROX. WEIGHT :- 3 lb. 12 oz.

STROKE OF UNIT	DIMENSIONS IN INCHES			SPRING FREE LENGTH
	A	B	C	
3.25"	11.375"	8.125"	3.5"	7.25"
3.25"	12.00"	8.75"	4.12"	7.25"
3.75"	13.00"	9.25"	4.37"	8.00"



TYPE A.T.6/7 TWO-RATE

SUSPENSION SPRING DATA

Rate : lb./in.	Upper Spring R ₁	Lower Spring R ₂
130	130	400
150	150	575

Either Upper Spring may be selected by the customer for fitting with either Lower Spring, the combined rate R₃ being given by :

$$R_3 = \frac{R_1 \times R_2}{R_1 + R_2}$$

The higher rate being that of the Upper Spring alone R₁, e.g. with 150 lb./in. Upper and 400 lb./in. Lower

$$R_3 = \frac{150 \times 400}{150 + 400} = 110 \text{ lb./in.}$$

$$R_1 = 150 \text{ lb./in.}$$

Weight :— 4 lb. 8 oz.

Stroke of Unit	A Dimn	B Dimn	D Dimn
2.75"	12.75"	10.00"	3.16"