

GOVERNING VALVE

The steam chest "1" which encloses the governing valve is bolted and dowelled to the cylinder base.

The governing valve "3" is of the double seated, balanced, poppet type and operates within the cage "2". The valve is pinned to the stem which is guided by the cage at the lower end and by the bushings "5" and "8" at the upper end. The stem is connected to the governing valve servomotor by a bushing and retainer as indicated.

The bushings "5" and "8" serve also to reduce to a minimum, the leakage of steam along the stem. Where two leak-off openings are provided, the lower one should be connected to a point of lower pressure, determined by the operating steam conditions, while the upper one should be connected to a point at atmospheric pressure where a small amount of escaping steam is not objectionable. No other form of stem packing is used and excessive leakage should be corrected by installing new bushings.

The surface of the valve stem must be kept smooth and free of galled spots, paint, rust or dirt. Any binding or sticking of the stem will cause erratic governor action.

It will be noted that the valve and seats form line contacts and not surface contacts. Therefore, this valve cannot be "ground-in" to stop leakage. A test to determine whether or not the valve is leaking too badly for use may be applied as follows:

1. With the auxiliary oil pump shut down open the throttle valve slowly. If the steam leakage is sufficient to rotate the turbine rotor, it is evident that the valve is leaking too badly for practical use.

If it should be necessary to reseal the valve, the inner disc must be faced off maintaining a 90° angle, and the bevel on the outer disc faced off the same amount. The seats in the cage must be bored in the same manner, maintaining a 90° angle on the outer seat and a bevel on the inner seat. If this is not done accurately, the areas of the valve discs will be changed, thus throwing the valve out of balance which will undoubtedly cause "hunting" of the governor. It is difficult to do this work without proper facilities, and, since the parts are relatively inexpensive, it is recommended that new parts be obtained from the factory when such repairs are necessary.

Adjustment of Governing Valve

The valve travel (or Lift) is very important and is set accurately at the factory when the turbine is tested. Therefore, it is recommended that the travel (or lift) be checked on each new machine when first received, and this travel recorded in a permanent record. Then at any future time, the travel can be checked against the original setting.

In order to check the travel, proceed as follows:

With the turbine at rest, the governor valve servomotor holds the valve "3" on its seat. Then measure the distance between the bushing "8" and the servomotor bushing retainer. Operate the turbine at approximately half speed with no load. At this speed the governor valve will be open wide. Again measure the distance between the bushing "8" and the servomotor bushing retainer. The difference between the two measurements is the valve travel (or lift) and is the figure to be recorded.

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Note: It is advisable to go through the checking process a second time to insure a correct reading.

The following list has been compiled to facilitate ordering spare or renewal parts by name and number together with the serial number of the turbine.

<u>Item</u>	<u>Name</u>
1	Steam Chest Body
2	Governing Valve Cage
3	Governing Valve
4	Governing Valve Cage Retaining Pin
5	Steam Chest Cover Bushing (Lower)
6	Steam Chest Cover
7	Gasket
8	Steam Chest Cover Bushing (Upper)

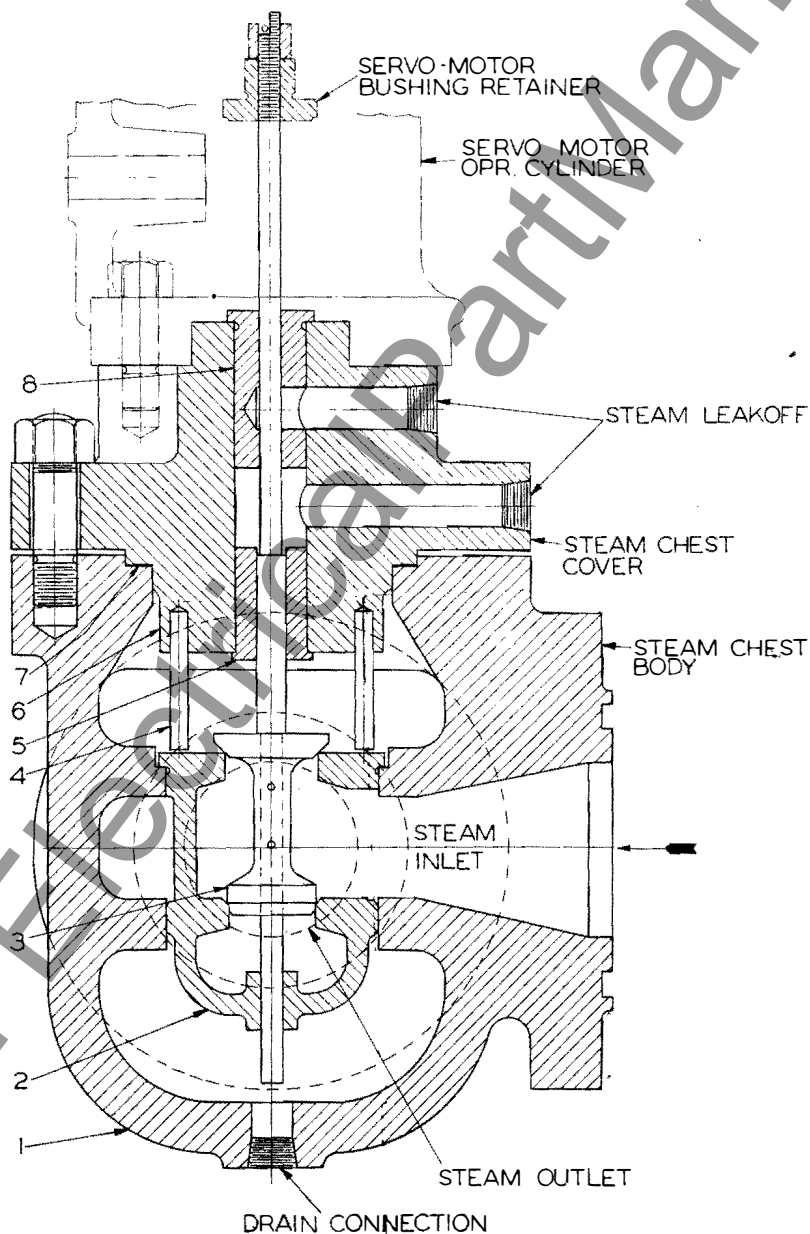


Figure 1