dle travel with respect to governor valve travel for each application and thus gives optimum speed regulation for the design conditions of the unit.

Caution: Proper lever ratio and valve travel on your unit has been set at the factory. Upon disassembly and subsequent reassembly, extreme care should be exercised to replace pin (675) in its original position.

GOVERNOR VALVE (651, Fig. 4)

Adjustments: The travel of the governor valve should be the minimum required to enable the turbine to carry full load under the contract steam conditions. The maximum valve travel should not be greater than 7/16 in.

Valve setting may be determined and recorded as follows: With the unit standing still, measure from the inside face of valve stem jam nut (946) to the face of gland follower (574) and record this dimension. Loosen jam nut (946) and turn valve stem (652) clockwise until the valve seats. With the valve in this seated position, screw jam nut (946) up against connection (654) and again take the measurement as above. The difference between these two measurements is the governor valve travel. Reset valve to original position.

Clearances: Valve stem (652) must at all times move freely in packing (573). After adjusting follower (574) to take up on packing, try movement of the valve stem to insure free movement.

BALL THRUST BEARING (623, Fig. 1)

Adjustments: Not adjustable. This thrust bearing locates the axial position of the rotor assembly with respect to the stationary parts of the unit. It carries no radial load and is located hard up against the accurately machined shoulder on the shaft. Note that the thrust bearing is of the single shield type. Correct assembly of the bearing is with the shield toward governor and with the bevel on snap ring (622) away from the bearing.

Clearances: Large radial clearance (carries no radial load) and negligible axial clearance or end float.

NOZZLE RING (601, Fig. 1)

Adjustments: None.

Clearances: Normally 1/16 in. between nozzle ring (601) and the shroud of the first disc assembly (630).

Minor variations in this adjustment are permissible. This clearance is obtained by feeler gage measurement and should be checked whenever rotor assembly, nozzle ring, or bucket holder is removed from the turbine and is reassembled.

OVERSPEED GOVERNOR AND LINKAGE (Fig. 5)

Adjustments: The turbine speed at which trip pin (938) flies out and closes the overspeed valve (916) may be adjusted by removing "U" lock staple (942) and resetting adjusting nut (937). Loosening this nut decreases the trip speed and tightening increases the trip speed. Should adjustment of the adjusting nut fall short of the desired increase in speed, washers (941) must be added. Clearance between trip pin (938) and plunger assembly (936) can be adjusted with jack screw (945) and jam nut (946). ***The jam nut must be locked in place under all conditions of operation.***

Overspeed valve (916) must be adjusted so that the upper end of the valve is seated in the guide in cover (569) when in the reset position and against the valve seat in the steam chest when it is in the tripped position. The overspeed valve is kept seated against the guide in cover (569) by means of spring (922), thus insuring sealing of the valve stem and preventing leakage. Jam nut (925) must always lock bushing (920) between spring seat (921) and connection block (919) as this controls the spring load on the overspeed valve when it is in the reset position. To adjust the positions of lever (927) and overspeed valve (916) disconnect spring (928) from lever (927) and unlock jam nut (925). When the bottom of the resetting lever knife edge (933) is 1/8 in. below the top of the hand trip lever knife edge (934), the overspeed valve (916) must be seated in the guide in cover (569). The position of the overspeed valve is adjusted by turning it in the threaded connection block (919) to raise or lower it.

Tension spring (928) insures the closing of the overspeed valve when the turbine is tripped. To insure sufficient closing force, anchor bolt (929) must be drawn against the flange by means of jam nuts (552).

Auxiliary resetting lever (949) facilitates the opening of overspeed valve (916) when the turbine is under full steam pressure. This lever must be returned to the position shown in Fig. 4, by torque spring (950). The torque in this spring may be increased by taking additional turns on spring.

Clearances: The 1/16 in. clearance shown between trip pin (938) and plunger assembly (936) must be maintained.

Valve stem (917) clearance in bushing (570) is .007 to .009 in. and valve stem clearance at the lands between the guide bushing is .0035 to .005 in. Valve stem and bushing should be kept clean and free from scale to prevent valve from sticking. Linkage pins (931), shoulder bolt (943), block (926) and connection block (919) are to be free sliding fits. A clearance of 1/16 in. should be maintained between block (926) and connection block (919).

WATER COOLING OF BEARINGS

Bearing oil in standard ring oiled units is cooled by means of cooling tubes (524) as shown in Fig. 1. The oil surrounds the outside of these cooling tubes and the cooling water passes through the inside of the tubes. Fig. 5 gives the recommended water cooling piping hookup. The pressure of the cooling water must not exceed 50 psig. Approximately 1 gpm of water at 85°F. maximum is required per bearing for proper cooling.