TAPE DRIVE SYSTEM[1]

The tape drive system is composed of the drive motor, the capstan assembly, the capstan idler arm and idler, and the tape guides at the tape entrance and exit within the head assembly.

The purpose of the tape drive system is to transport the tape across the heads at a uniform speed during the record and reproduce processes. By means of a hysteresis synchronous capstan drive motor (B501), the tape drive capstan assembly and a capstan idler, the magnetic tape is driven at constant speed after power has been applied to the equipment and the PLAY button is pressed. (The drive motor has two windings to provide two tape speeds either of which can be selected at the TAPE SPEED tog*gle* switch (S502 and S503).

After the POWER switch (S801) at the electronic assembly and tape transport has been placed in the ON position the FAST or SLOW start switch (S806) is at this time operated. In the SLOW start position the capstan drive motor is out of the circuit but in FAST start the capstan drive motor solenoid energizes and the motor pulley engages the capstan flywheel. When the PLAY position is selected, followed by pressing the START button, (provided the tape is properly threaded), the capstan solenoid (K501) and the brake solenoids K601 and K701 are energized. The capstan solenoid pulls the rubber tired capstan idler wheel, which is mounted on a swivel type arm, against the tape, causing the tape to make firm positive contact with the capstan. The tape is then driven at a constant speed across the head assembly.

The capstan drive motor assembly is mounted on a sturdy motor bracket held to the underneath side of the tape transport with three 1/4-20x5/8-inch socket-head cap screws. Mounted on top of the motor is the spring arm with variable holes for the drive motor return spring whether it be rack, portable or console (horizontal or vertical mounted). Two holes for the shipping lock also share this spring arm. The purpose of the spring is to provide a means to keep your motor pulled away from the capstan in the de-energized position. **A stronger return spring is required for rack mounted machines than for console or portable units.**

Rack-A-19995-0J (Heavier)

Console-A-19994-0 1

The capstan drive motor is mounted on a hinge which is moved by a solenoid to engage the motor and capstan flywheel. Extending from the solenoid draw bar is an adjustment point listed on the illustration.

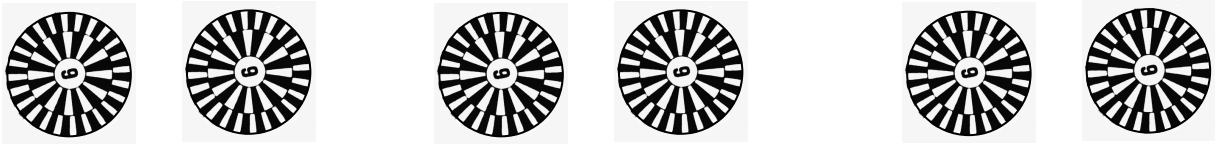
The capstan speed should be checked with the stick-on strobosticker provided. Before checking, let drive unit run for at least five minutes to warm up lubricant in the capstan assembly. If the lubricant is stiff, the additional drag will cause greater compression of the rubber tire and the capstan will therefore run slightly slow until warmed up. Place strobosticker on capstan shaft with the sticky side down and view rotating shaft under 60 cps light. If the speed is not correct the spokes will appear to rotate. Slight speed changes can be realized by change in capstan drive motor pressure. If the adjustment is in the proper range, increasing pressure will slow the capstan, decreasing pressure will speed the capstan. Adjust for no rotation of the strobosticker spokes. (If drive motor pressure is too light, increasing pressure will speed the capstan. In this range the tire pressure is inadequate for stable operation, and the pressure should be increased until increase in pressure reduces capstan speed.)

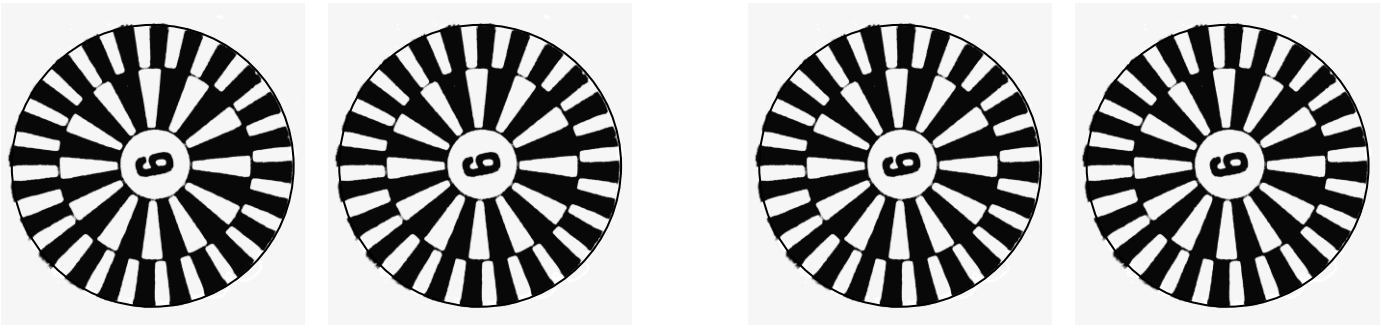
[1] **From Section 5 of Ampex 300 multichannel manual, August 1959**

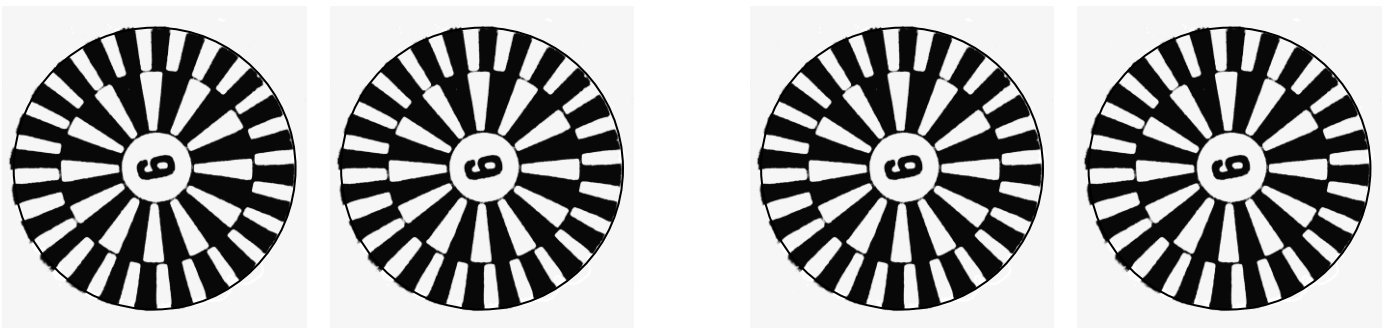
60 Hz Ampex 300 strobe discs

300 / 600 rpm (7.5 / 15 ips)

Use on capstan shaft only







50 Hz Ampex 300 strobe discs

300 / 600 rpm (7.5 / 15 ips)

Use on capstan shaft only