

28 TAPE PULLER (STOCK TICKER)

DESCRIPTION, ADJUSTMENTS, AND LUBRICATION

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which pulls transparent tape through the tape printer at a controlled regulated speed. The tape is pulled through the tape printer and an associated projector and wound onto a tape reel. The motor control assembly, mounted on the base pan of the tape printer set, controls the speed at which the tape moves. The electrical service assembly serves as an interconnecting unit for cabling, fuse holders, convenience receptacle, connectors and terminal blocks.

2. COMPONENTS

TAPE PULLER ASSEMBLY (Figure 1)

2.01 The tape puller consists of a tape puller motor, a tape reel motor, a tape puller motor rectifier, pressure bail with guide rollers, a shaft with feed roller, gears, and a tape reel.

2.02 The tape reel motor turns the tape reel. This motor is capable of being stalled continuously or of winding a full reel of tape. The torque, however, is not strong enough to tear the tape.

2.03 The tape puller motor drives a knurled tape feed roller through a shaft and gear. A pressure bail with a pressure roller and latches is provided as an aid in pulling the tape. The pressure bail assembly may be unlatched for threading tape into the assembly. When threaded and closed a knurled pressure roller under tension of its spring applies pressure to the tape on top of the motor driven tape feed roller. The bail may be unlatched by applying pressure to the latch. By means of this motor driven roller arrangement tape is pulled from the reel on the tape printer through the tape chute under the type box, through a motor control device (Fig. 2), through the optical system of a projector. The motor driven tape reel winds the tape after it is pulled through the puller.

1. DESCRIPTION

GENERAL

1.01 The tape puller, together with its associated motor control assembly and electrical service assembly, comprises a system

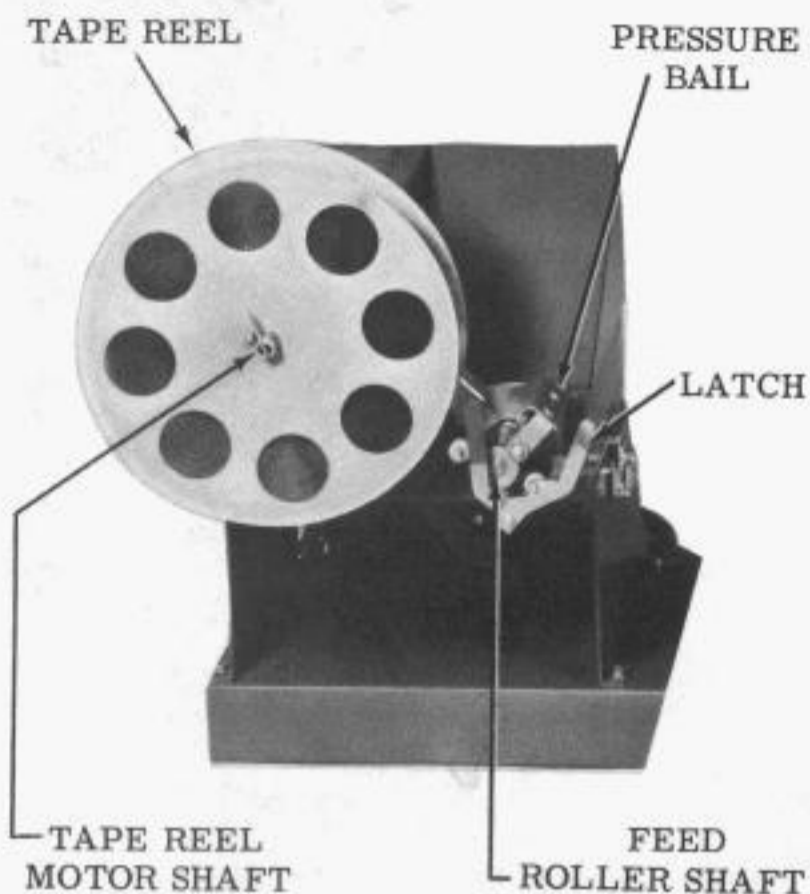


Figure 1 - Tape Puller

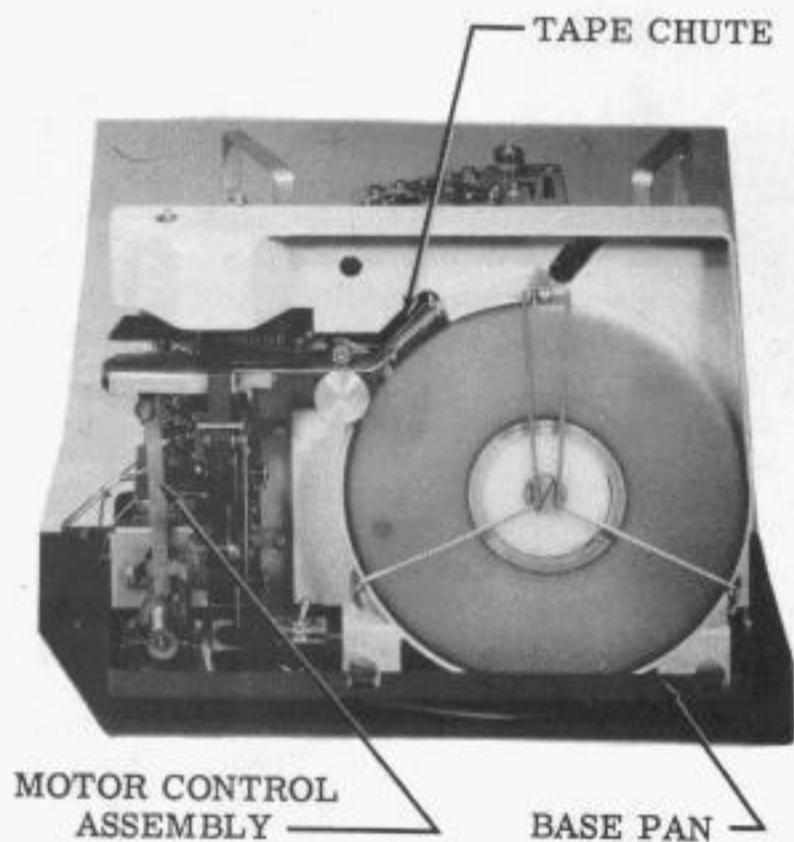


Figure 2 - Motor Control on Tape Printer

MOTOR CONTROL ASSEMBLY (Figures 2 and 3)

2.04 The motor control assembly attached to the base pan of the tape printer set controls the input current to the puller motor through movement of a tape arm which is rocked by the tautness of the tape between the tape printer and the tape puller. The assembly includes a tape arm with roller, circuit card with resistors, a bracket, springs, and a cable assembly.

2.05 The spring biased tape arm pivots on its bracket and extends upward just under the tape chute. A roller is mounted at the top end in line with the tape chute. When properly threaded the tape emerging from the chute is looped back over the arm roller before extending on to the tape puller. As the tape becomes loose or taut, the tape arm rocks to the right or left. The rocker at the lower end of the tape arm carries one side of a circuit and rocks across a circuit card of resistors.

2.06 AC power is brought into the tape puller to the rectifier. The rectifier converts the ac to dc power which is applied directly across the field and armature windings of the tape puller motor. The motor control is in series with the armature winding. As the upper end of the tape arm moves right or left from tension or lack of tension of the tape, the rocker rocks across the circuit board of resistors and inserts or removes resistance in the armature winding of the puller motor thus varying its speed. When the tape printer stops feeding tape, the top of the tape arm is pulled to the left until the tape becomes taut. The rocker at the lower end of the tape arm carrying one side of the circuit rocks across the card of resistors (Fig. 3) increasing the circuit resistance until it finally breaks the circuit and the tape puller motor stops. When the tape printer begins feeding tape again, the reverse movement takes place. As tension of the tape on the tape arm slackens, current again flows through the motor armature with decreasing resistance until the puller motor winds the tape at the same speed at which it is being fed out by the tape printer.

ELECTRICAL SERVICE ASSEMBLY (Figure 4)

2.07 The electrical service assembly provides a cable receptacle, two convenience receptacles, four fuse holders, a line terminal block, and a power switch all housed in a sheet metal case located to the rear of the tape puller.

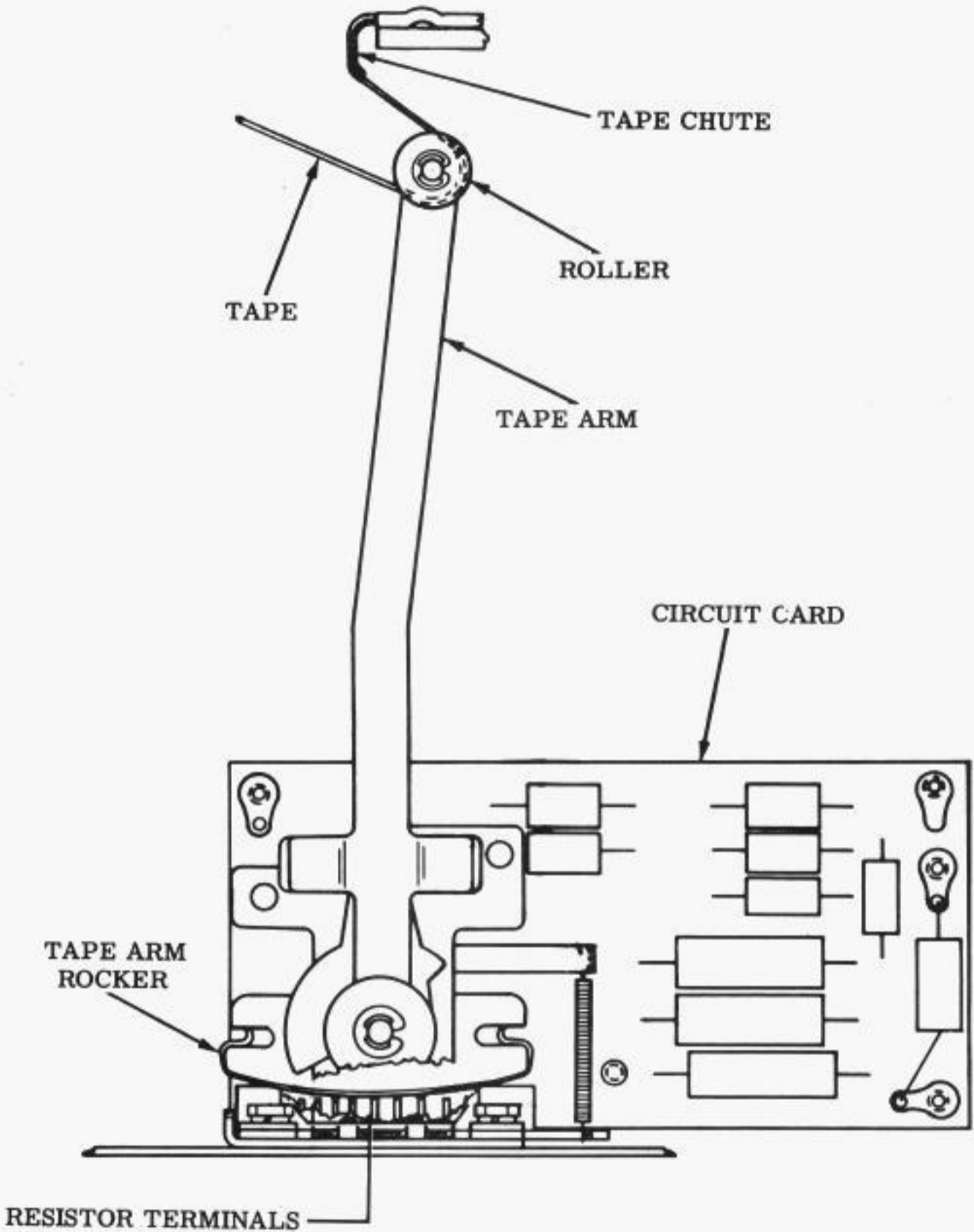


Figure 3 - Motor Control Assembly

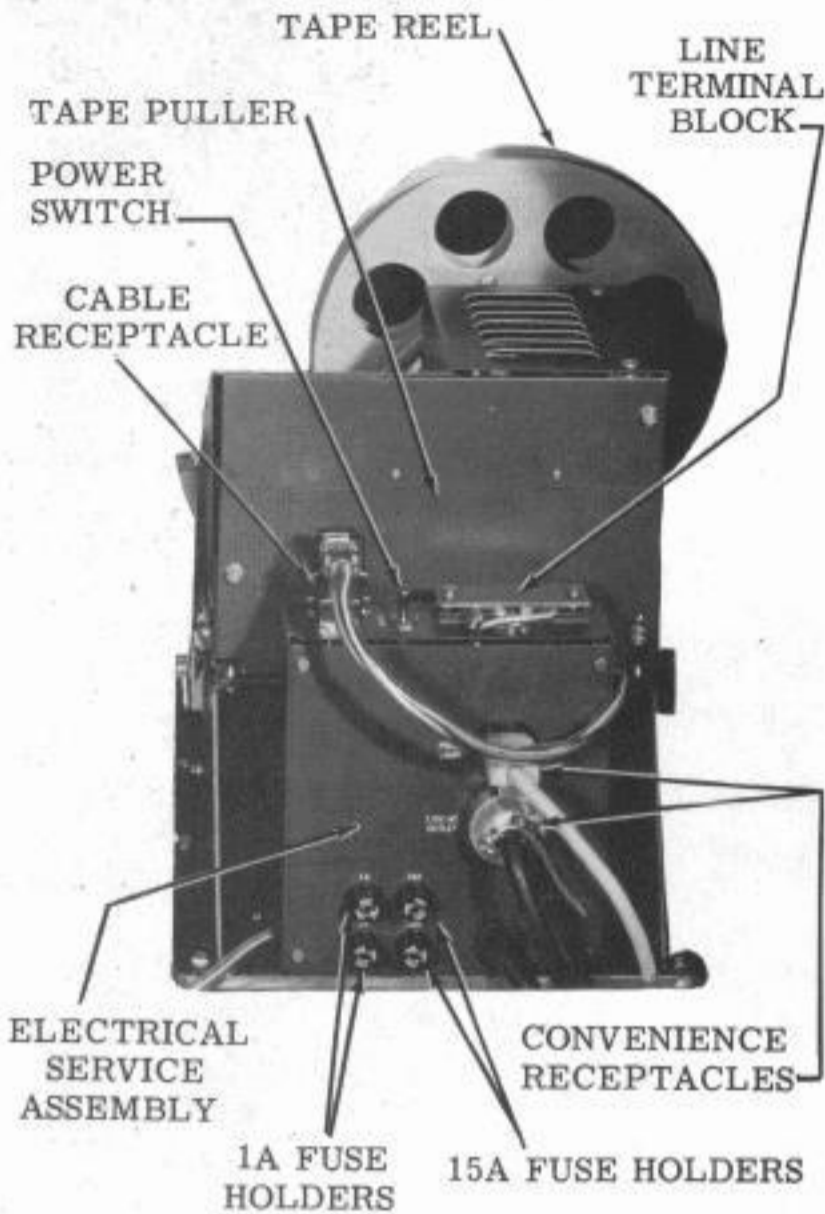


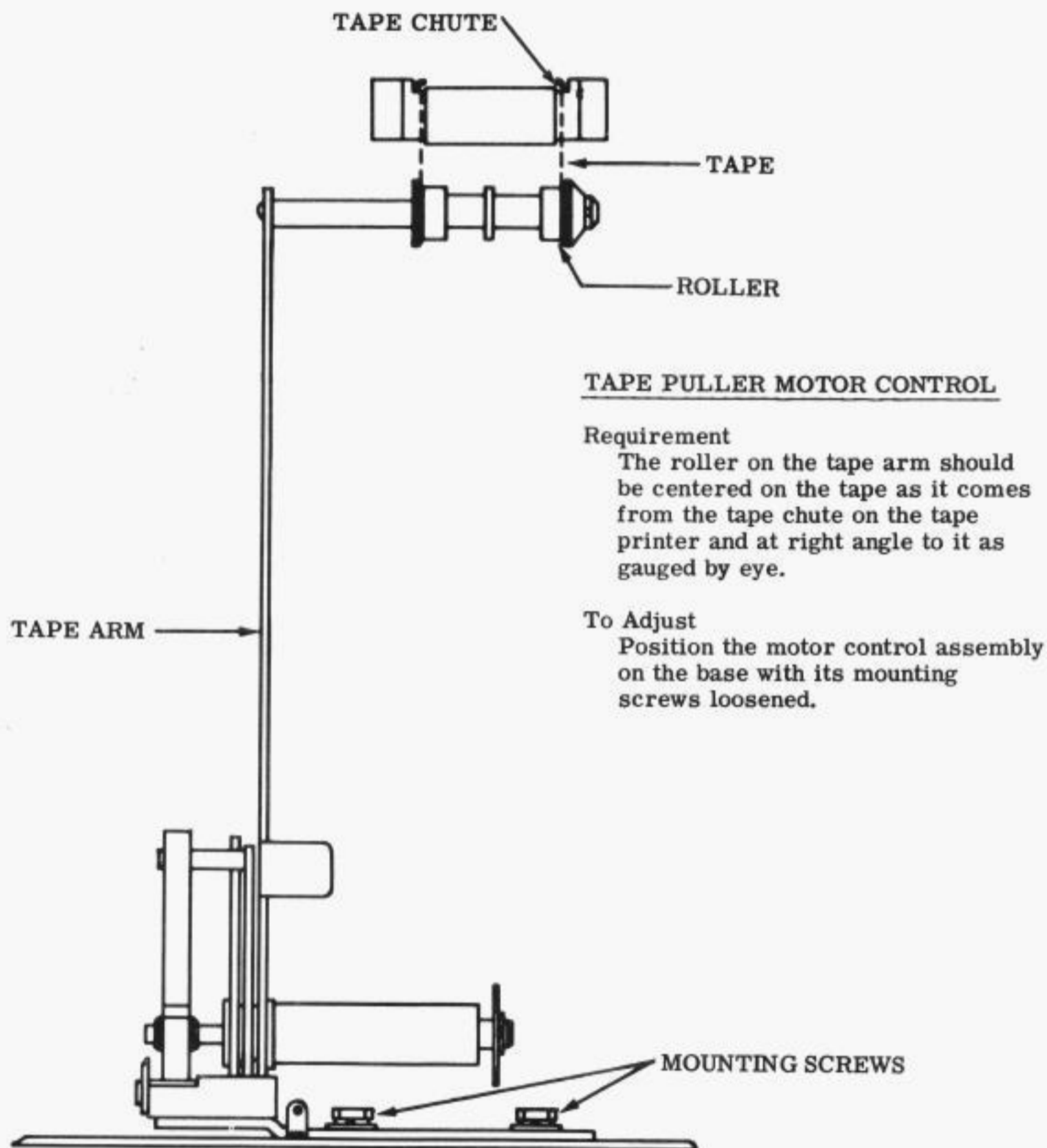
Figure 4

2.08 The cable receptacle provides ac power interconnection to the tape reel motor and the rectifier; and also dc interconnection between the rectifier, tape puller motor and the motor control assembly on the tape printer base. The convenience receptacles provide fused ac power connections for a projector unit and the tape printer unit. Two of the fuse holders are provided for 15A fuses in both sides of the ac power line. The other two fuse holders are for 1A fuses in both sides of the dc power line through the tape puller motor and the motor control assembly. The line terminal block provides connection for the signal line. A strap link is provided on the block for shunting the signal line for convenience in changing units for repair or other reasons. A power switch is provided on top of the assembly. The electrical service assembly is equipped with a power cord.

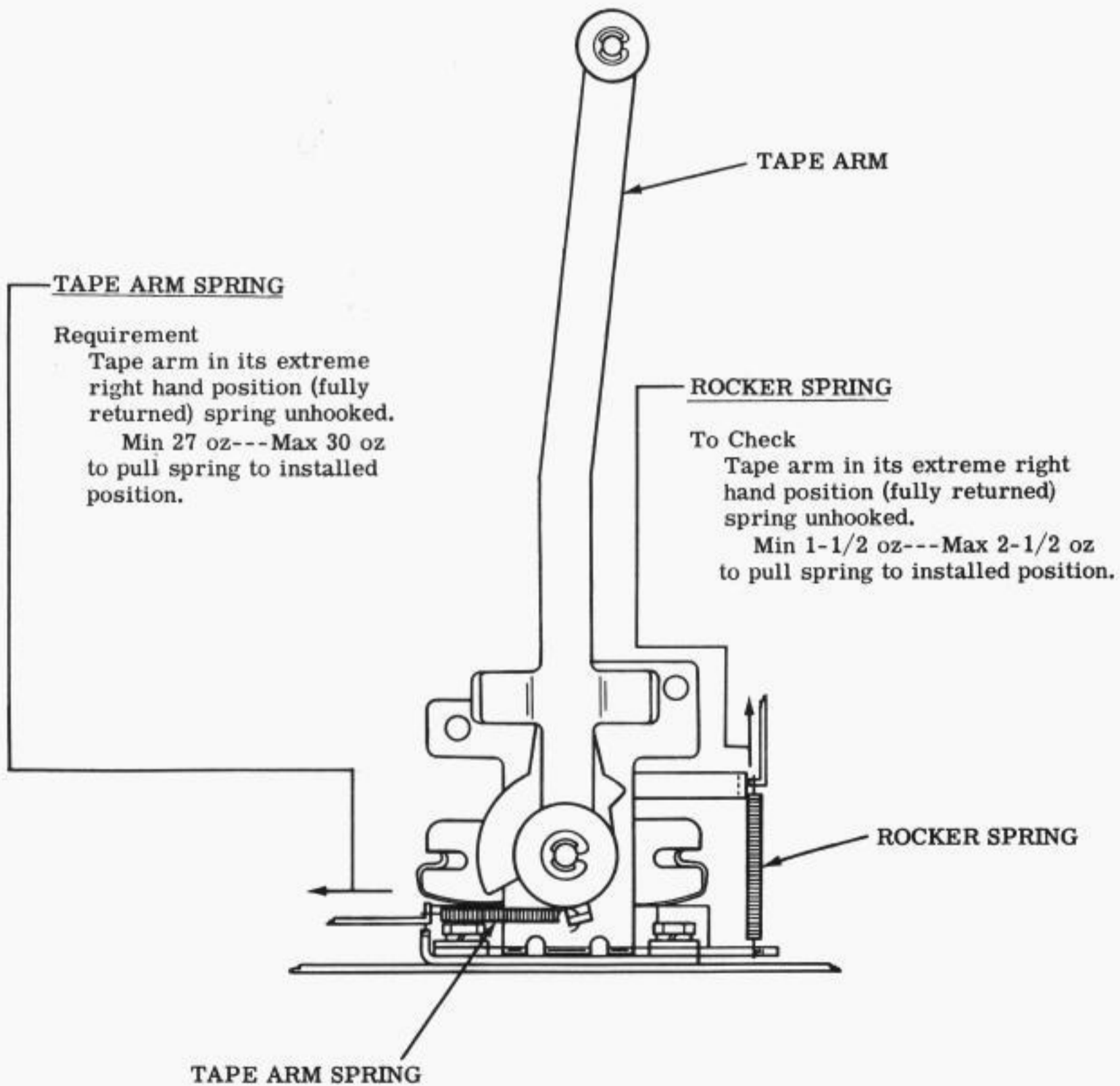
3. ADJUSTMENTS

MOTOR CONTROL ASSEMBLY

3.01 Tape Puller Motor Control



3.02 Tape Puller Motor Control (continued)



TAPE PULLER

3.03 Tape Puller Alignment

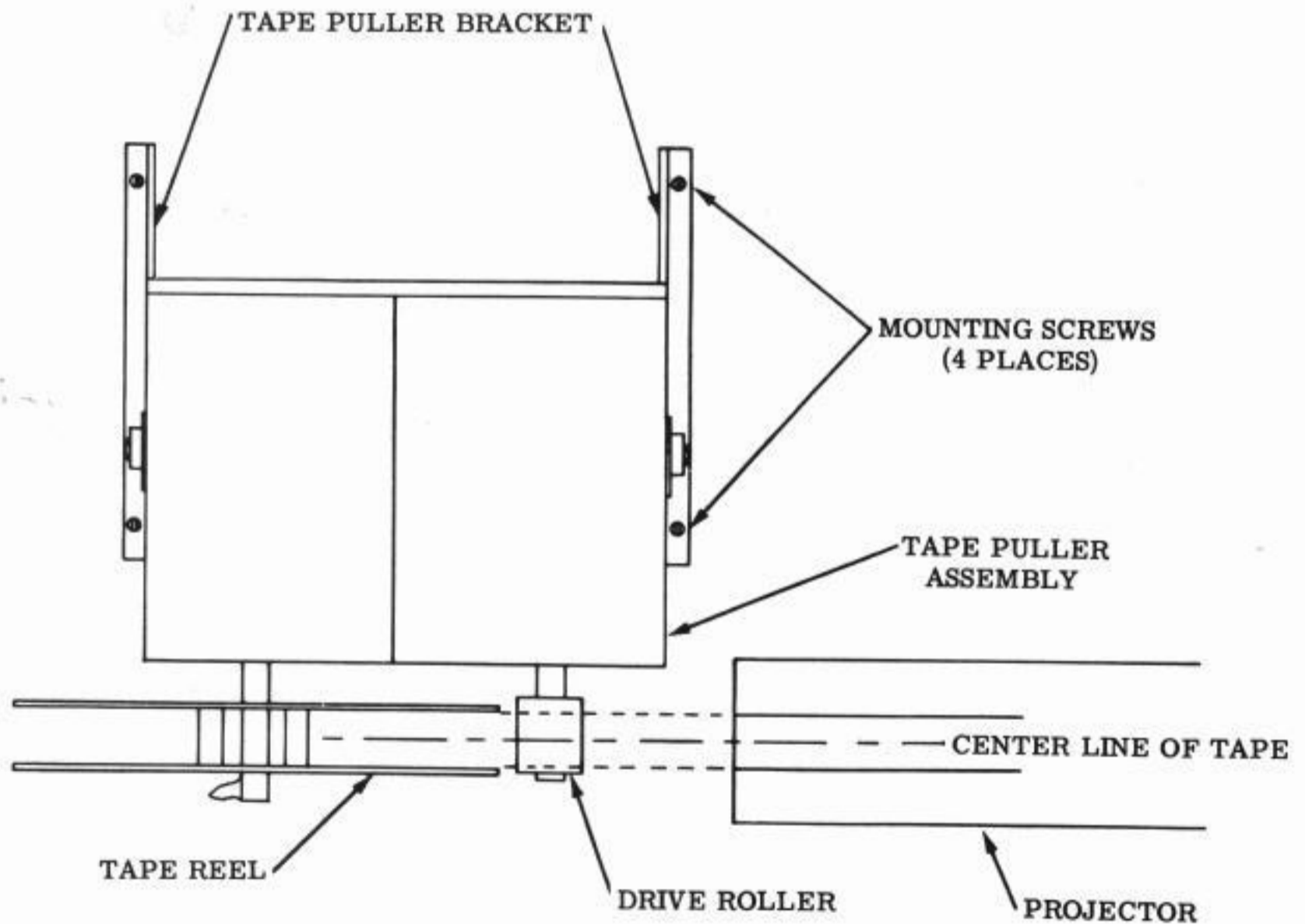
TAPE PULLER ALIGNMENT**Requirement**

The tape should be centered on the driving roller of the tape puller.

To Adjust

Position the tape puller brackets on the projector base with their mounting screws loosened.

Note: In order that the tape may be pulled through the set properly, it is necessary that the tape printer, motor control assembly, projector, and tape puller be properly aligned.



3.04 Tape Puller (continued)

TAPE PULLER MOTOR GEAR

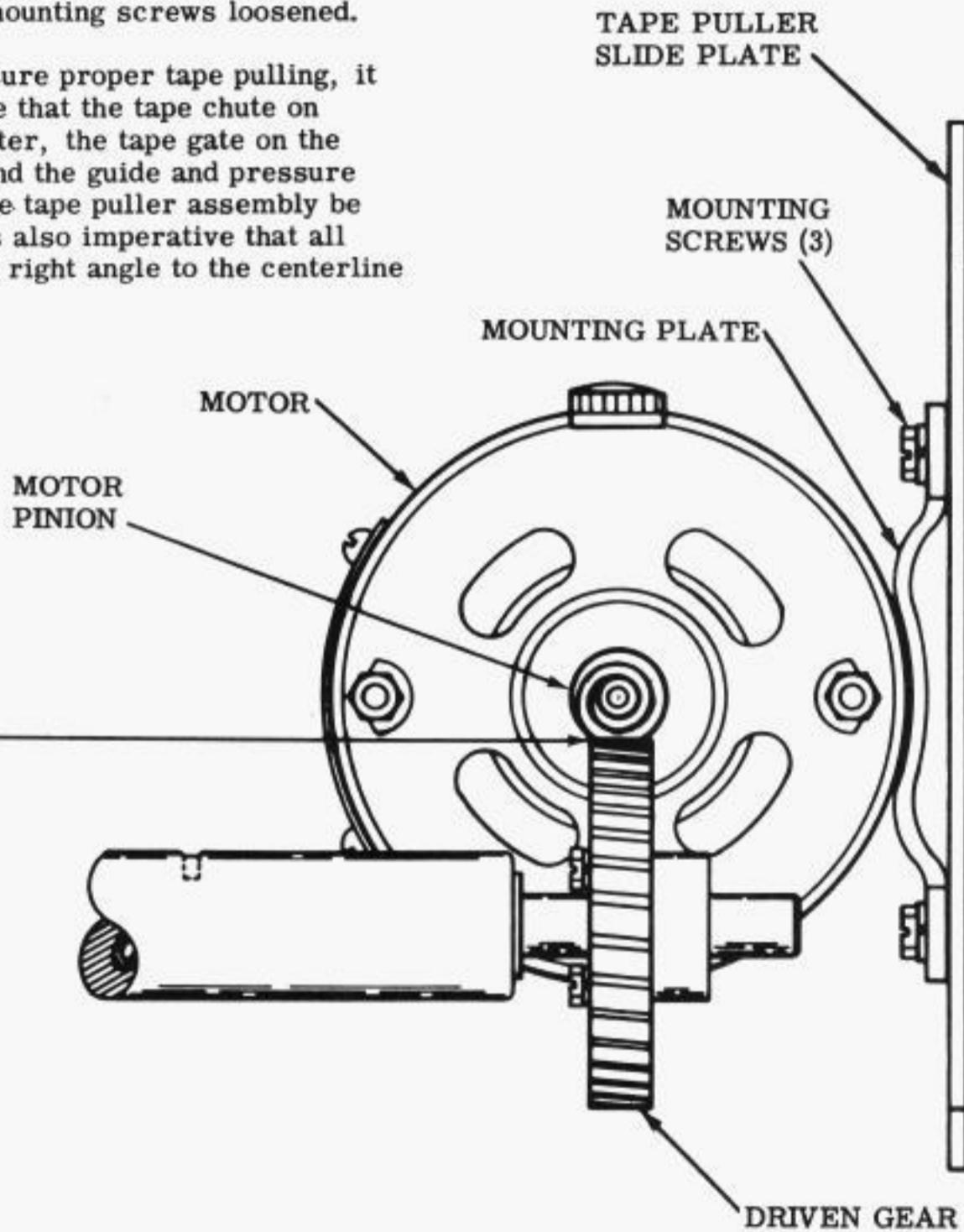
Requirement

Min 0.004 inch---Max 0.008 inch
Backlash between the motor pinion and
the driven gear on the tape puller.

To Adjust

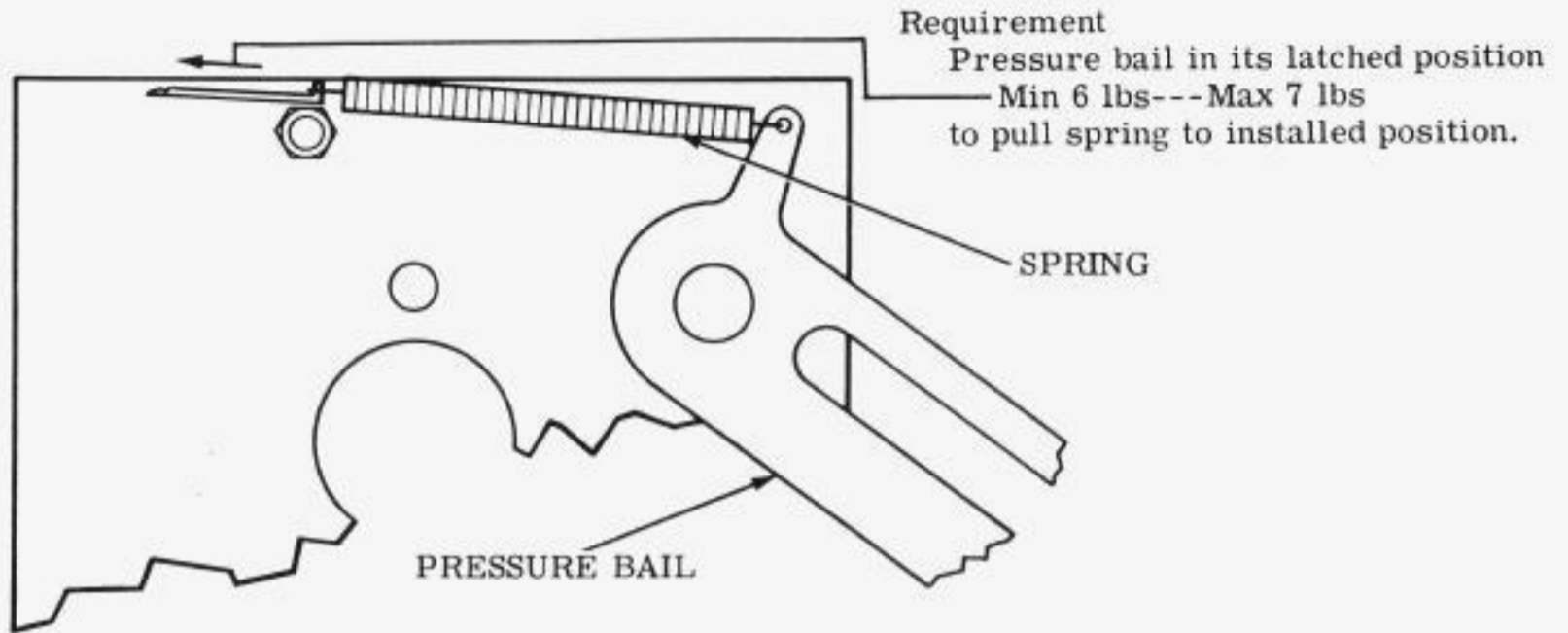
Position the motor and mount the plate
with its three mounting screws loosened.

Note: To insure proper tape pulling, it
is imperative that the tape chute on
the tape printer, the tape gate on the
projector, and the guide and pressure
rollers on the tape puller assembly be
in line. It is also imperative that all
rollers be at right angle to the centerline
of the tape.



3.05 Tape Puller (continued)

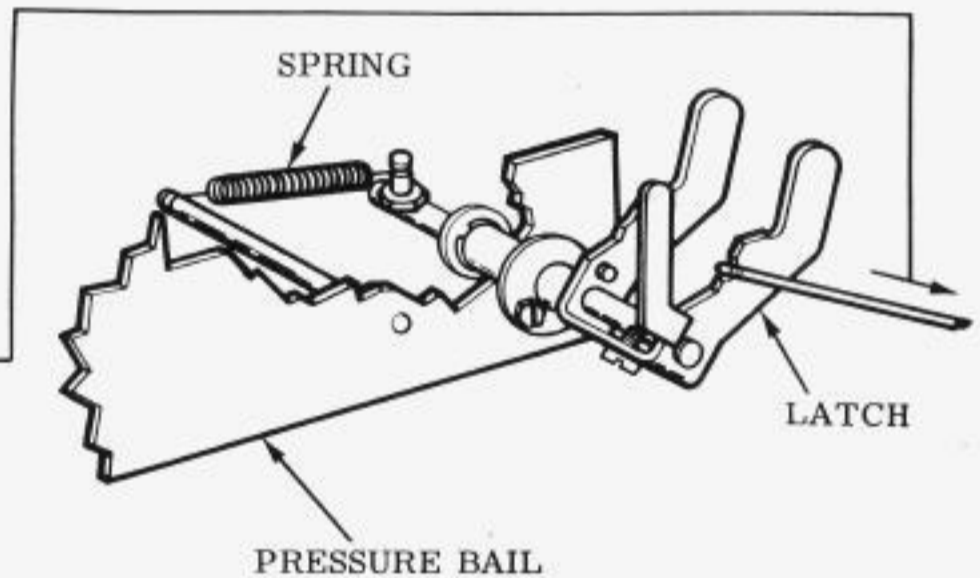
PRESSURE BAIL SPRING



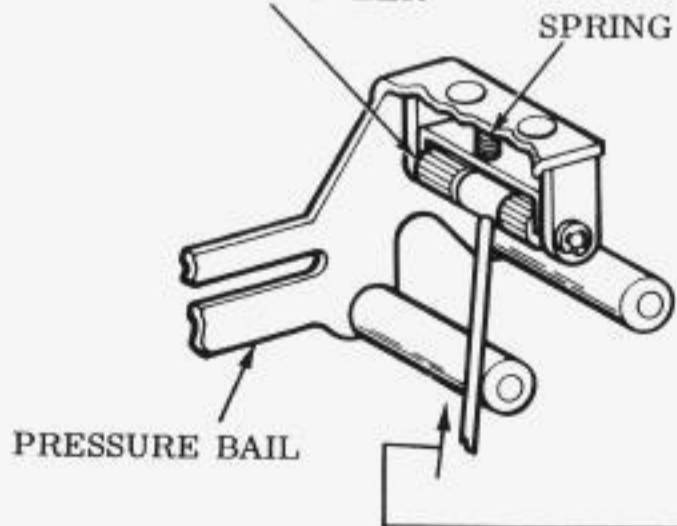
LATCH BAIL SPRING

To Check
Unlatch the bail.

Requirement
Min 9 oz---Max 13 oz
to start latch bail moving away
from its stop.



PRESSURE ROLLER



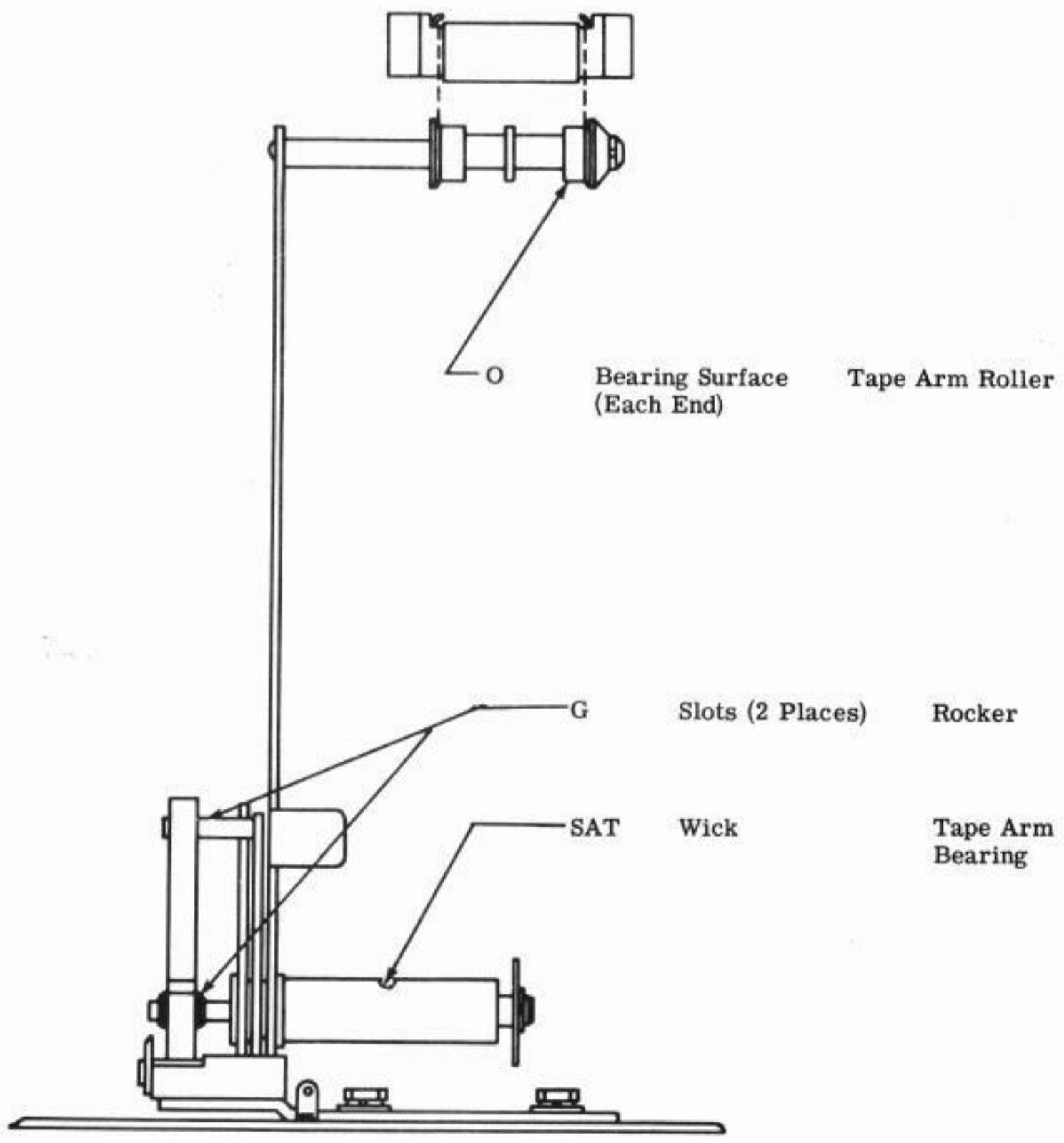
PRESSURE ROLLER SPRING

To Check
Pressure bail in unlatched position.

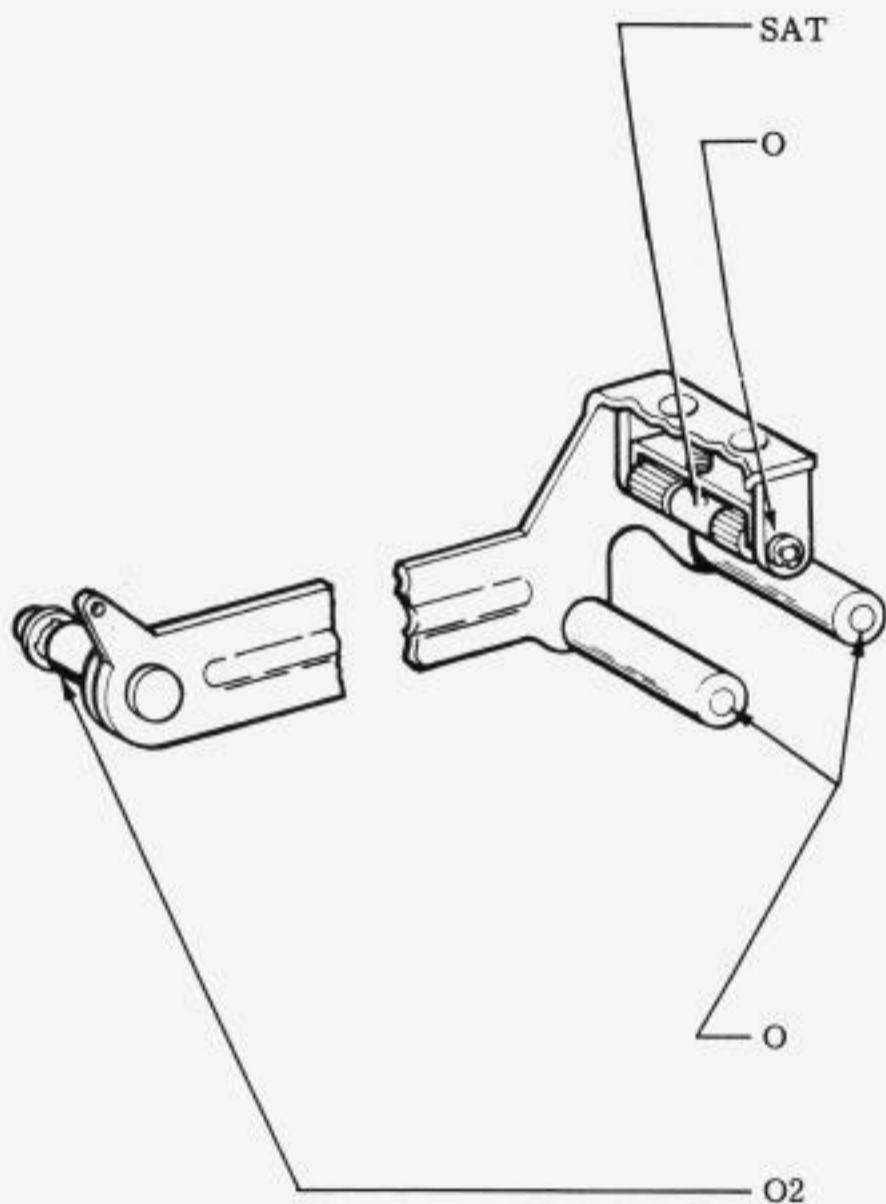
Requirement
Min 9-1/2 oz---Max 14 oz
to start the pressure roller moving
upward when the force is applied
in the center of the roller.

4. LUBRICATION

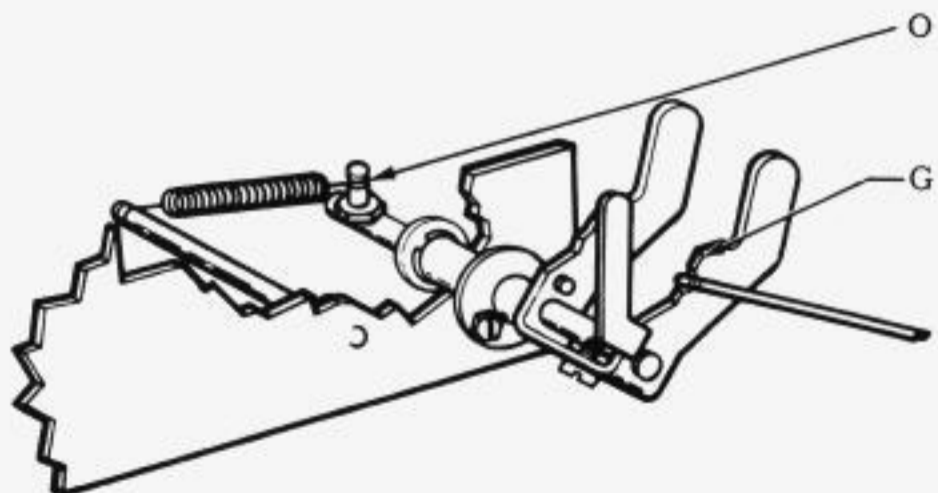
4.01 Motor Control Assembly



4.02 Pressure Bail



- SAT Wick
- O Each End
- O Stud-Each End (Both Rollers)
- O2 Stud
- Pressure Roller
- Pressure Roller Shaft
- Guide Rollers
- Pressure Bail



- O Hooks (Each End)
- G Each Camming Surface (Light Film)
- Spring
- Latch Bail

4.03 Tape Puller Motor

G Light Film

SAT Wick

