

HIGH SPEED TAPE READER UNITS (CX)  
DISASSEMBLY AND REASSEMBLY

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1. GENERAL

1.01 This section provides disassembly and reassembly information for the high speed tape reader units (Figure 1). It is reissued to incorporate engineering changes and comments received on Issue 4. Since only a limited distribution was made on Issue 4, marginal arrows have been omitted.

1.02 This section provides specific disassembly and reassembly instructions for the high speed tape reader units (CX). Unless specified otherwise in the instructions, the procedures apply generally to all units.

1.03 Photographs are used to identify the mechanism and specific parts mentioned in the procedures. Refer to the appropriate

parts section for drawings showing the location of all parts and mechanisms.

1.04 Refer to Section 570-005-800TC, Maintenance Tools, for information on tools necessary to perform the disassembly and reassembly procedures.

1.05 References in the procedures to left or right, up or down, top or bottom, etc refer to the reader viewed with the flywheel facing the front (Figure 1).

1.06 While unsoldering leads from the terminals, the thermoplastic tubing over the leads might be damaged. If this happens, replace the tubing. Avoid using an excessive amount of solder and take care that no solder falls or becomes wedged between moving parts.

**CAUTION: REMOVE POWER BEFORE DISASSEMBLING THE READER.**

2. DISASSEMBLY AND REASSEMBLY

DRIVEN GEAR OR SPROCKET

2.01 The driven gear (Figure 2) or driven sprocket is removed from the TP171731 main shaft as follows:

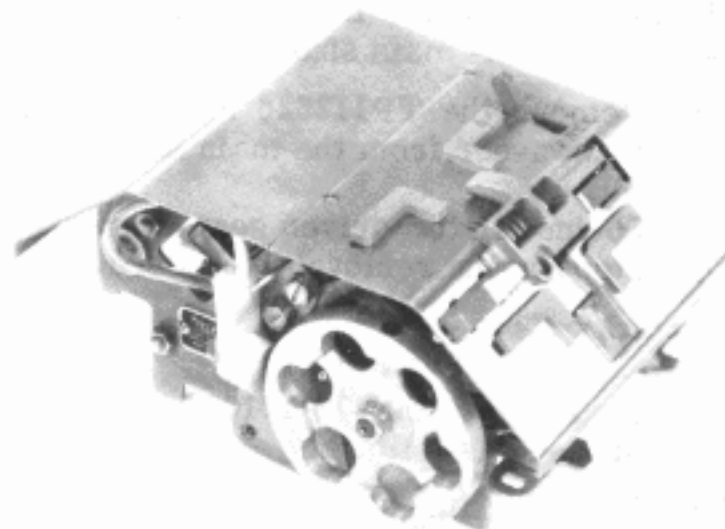


Figure 1 - Tape Reader Unit

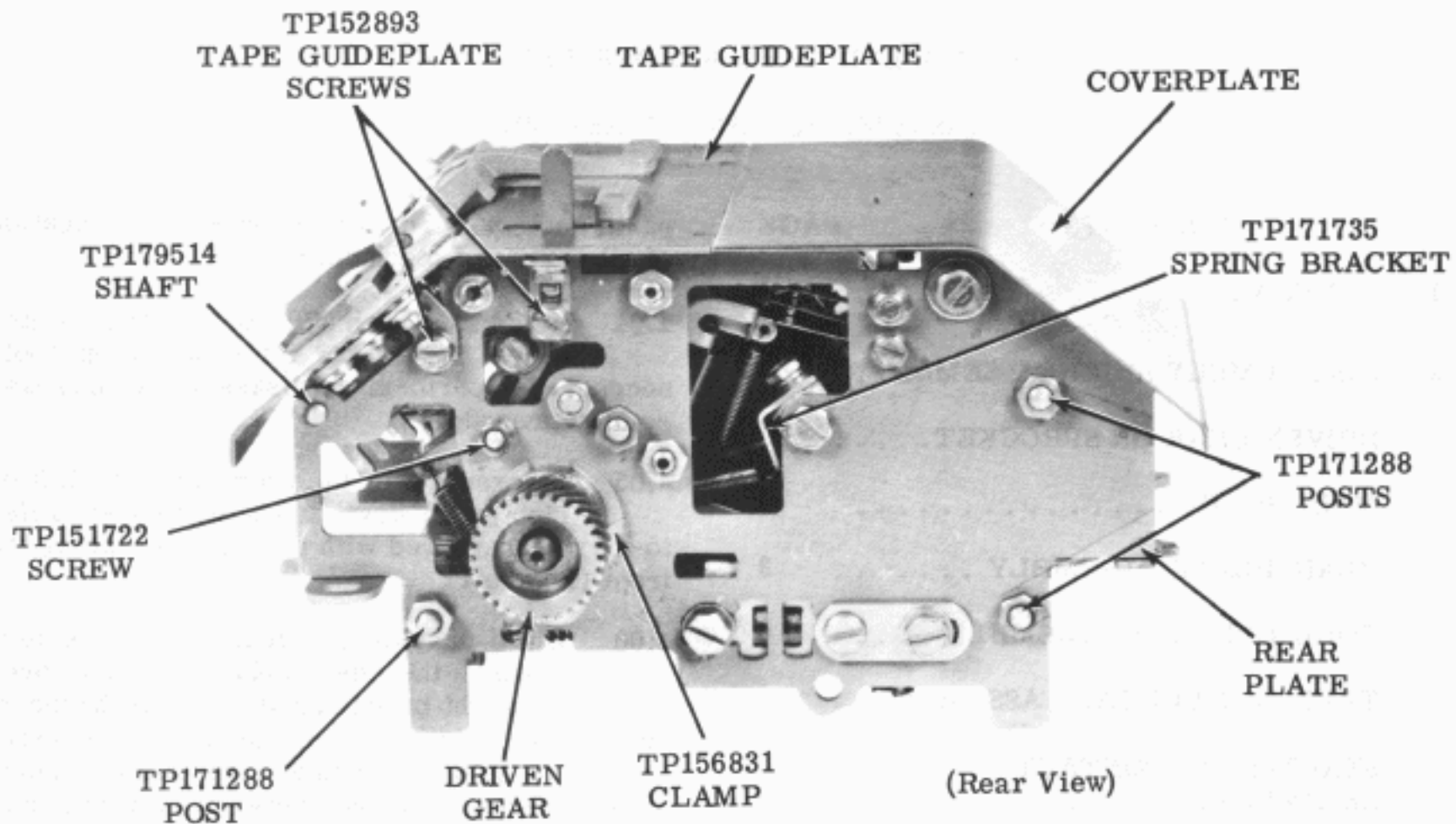


Figure 2 - Tape Reader Unit

- (1) All readers except CX805: Remove the TP150089 screw, two TP125011 flat washers, two TP3640 lockwashers and the TP3599 nut that fastens the driven gear to the main shaft. (The TP150089 screw passes through the main shaft at the driven gear end.)
- (2) CX805 reader: Remove the TP151685 screw, the TP125011 flat washer, and the TP3640 lockwasher that fastens the driven sprocket to the main shaft.
- (3) Remove the TP112626 nut and TP2669 lockwasher from the main shaft.

2.02 To install the driven gear, reverse the steps in the removal procedure.

#### MAIN SHAFT

2.03 To remove the TP171731 main shaft, proceed as follows:

- (1) Remove the driven gear or driven sprocket, whichever is applicable (2.01).
- (2) Remove the TP151688 screw, the two TP125011 flat washers, the TP3640 lockwasher, and the TP3599 nut. (The TP151688 screw passes through the main shaft at the flywheel shoulder.)

- (3) While holding the TP12782 flywheel firmly, remove the TP112626 nut, TP2669 lockwasher, and TP34432 flat washer (Figure 3).

Note 1: Some readers do not have a flywheel.

Note 2: The TP112626 nut clamps the bearing inner race in place when tightened.

- (4) Remove the flywheel if so equipped.
- (5) Remove the TP156501 screw, TP2191 lockwasher, and the TP156831 clamp from the front plate.
- (6) Remove the TP151722 screw, the TP2191 lockwasher, and the TP156588 clamp from the rear plate (Figure 2).
- (7) Guide the main shaft outward, toward the TP174125 rear plate, so that the TP130499 bearing is approximately one inch from the rear plate.
- (8) If necessary, use a TP84020 bearing puller and remove the TP130499 rear bearing.

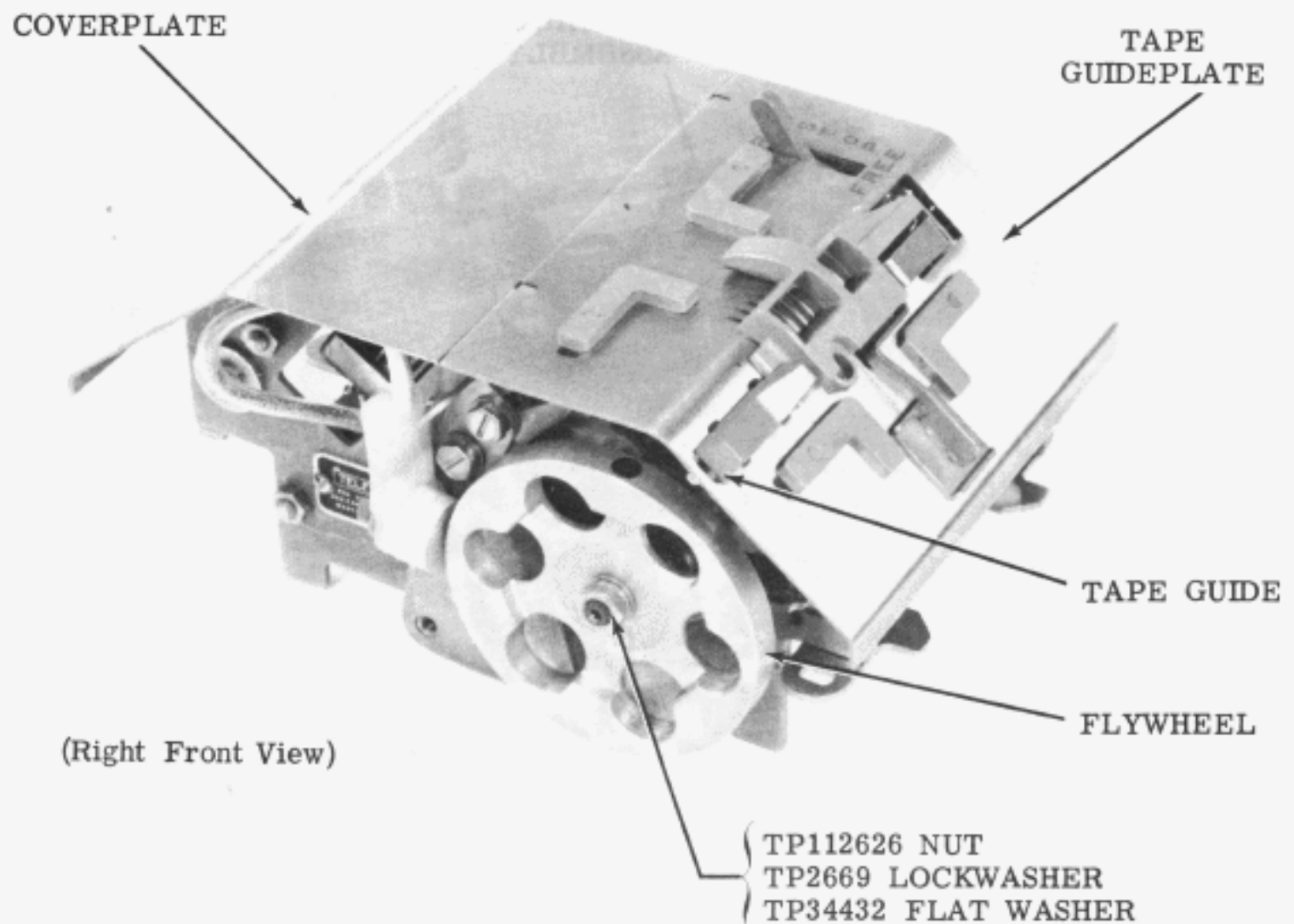


Figure 3 - Tape Reader Unit

(9) Carefully remove the main shaft from the front of the reader by rotating the shaft to assure that no cam followers are blocking the covers.

2.04 Install the main shaft by reversing the step of the removal procedure.

#### REAR PLATE ASSEMBLY

2.05 To remove the TP174125 rear plate assembly from the reader, proceed as follows:

- (1) Unhook four springs from the TP171735 spring bracket (Figure 2).
- (2) Remove the three TP3598 nuts and TP2191 lockwashers that secure the rear plate to the three TP171288 posts (Figure 2).

(3) Remove the TP151722 screw, TP2191 lockwasher, and TP156588 retaining ring from the TP171732 rear plate (Figure 2).

(4) Remove the TP156740 screw and TP2191 lockwasher that secure the rear plate to the TP171707 post.

(5) On units so equipped, remove the TP119649 retaining ring from the TP179514 shaft (Figure 2).

(6) Unhook the TP171313 spring from the TP171898 bracket to release the magnet and rear plate assembly from the reader.

(7) Check that the stop lever is not engaged with the TP171252 feed pawl.

(8) On units so equipped, unhook the TP179513 torsion spring from the rear plate (Figure 4).

(9) Remove the rear plate assembly from the reader. If it is necessary to remove it completely, remove the operating magnet

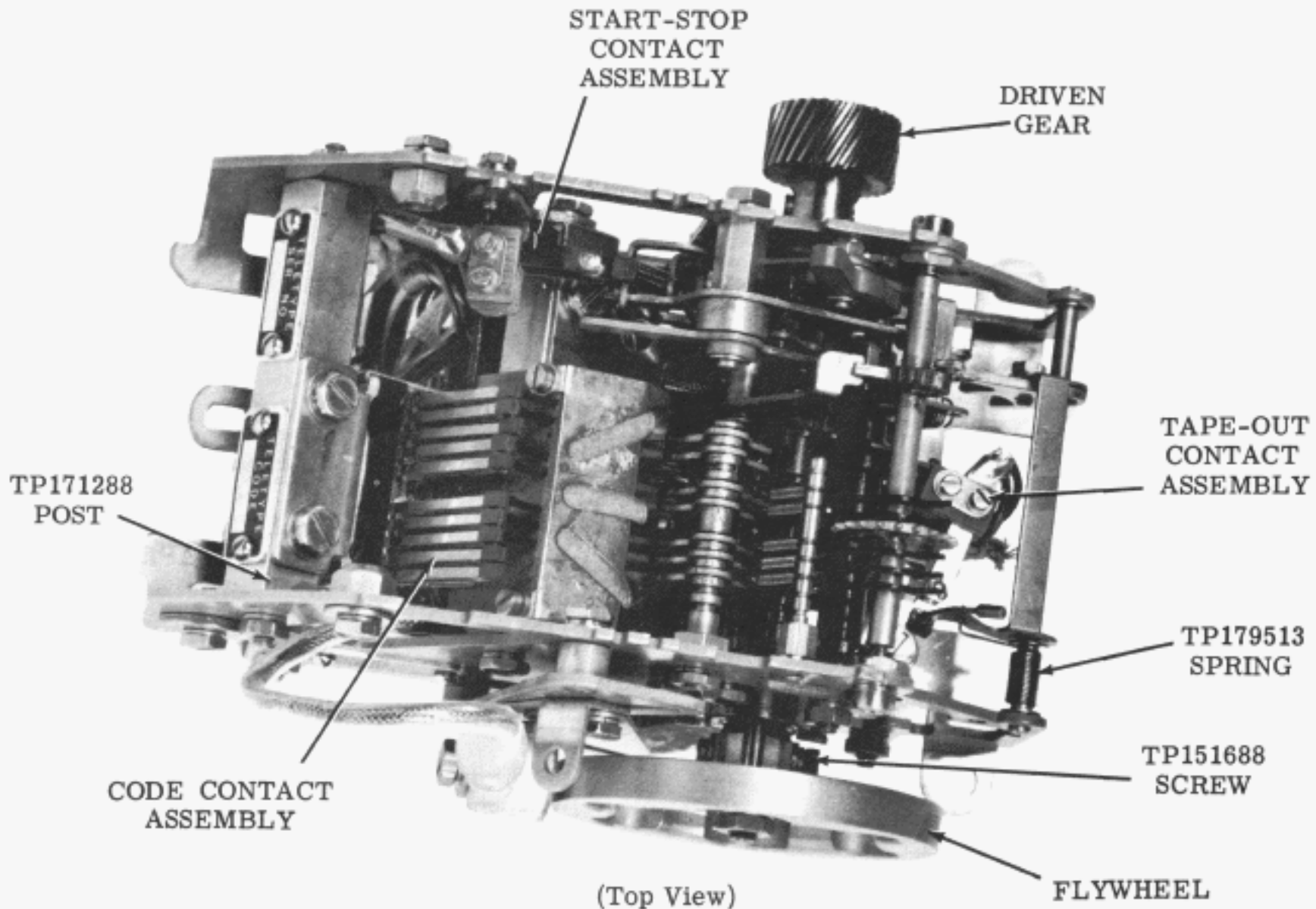


Figure 4 - Tape Reader Unit (Plates Removed)

assembly (2.13) and start-stop contact assembly (2.11) from the rear plate.

2.06 To install the rear plate assembly on the reader, reverse the removal procedure.

#### CODE CONTACT ASSEMBLY

2.07 To remove the code contact assembly from the reader, proceed as follows:

- (1) Remove the two TP156740 screws, two TP2191 lockwashers, and two TP7002 flat washers that secure the code contact assembly to the TP171288 post. See Figure 4.
- (2) It is now possible to move the code contact assembly about two inches outside of the reader.
- (3) Unsolder and disconnect the cable assembly leads from the code contact assembly terminals.

(4) Remove the code contact assembly from the reader.

2.08 To install the code contact assembly in the reader, reverse the disassembly procedure.

#### TAPE-OUT CONTACT ASSEMBLY

2.09 To remove the TP171255 (or TP179521) tape-out contact assembly from the reader, proceed as follows:

- (1) Unsolder and remove the cable assembly from the tape-out contact assembly (Figure 4).
- (2) Remove the two TP152893 screws, two TP3640 lockwashers, and two TP125011 flat washers from the TP171256 assembly mounting bracket.

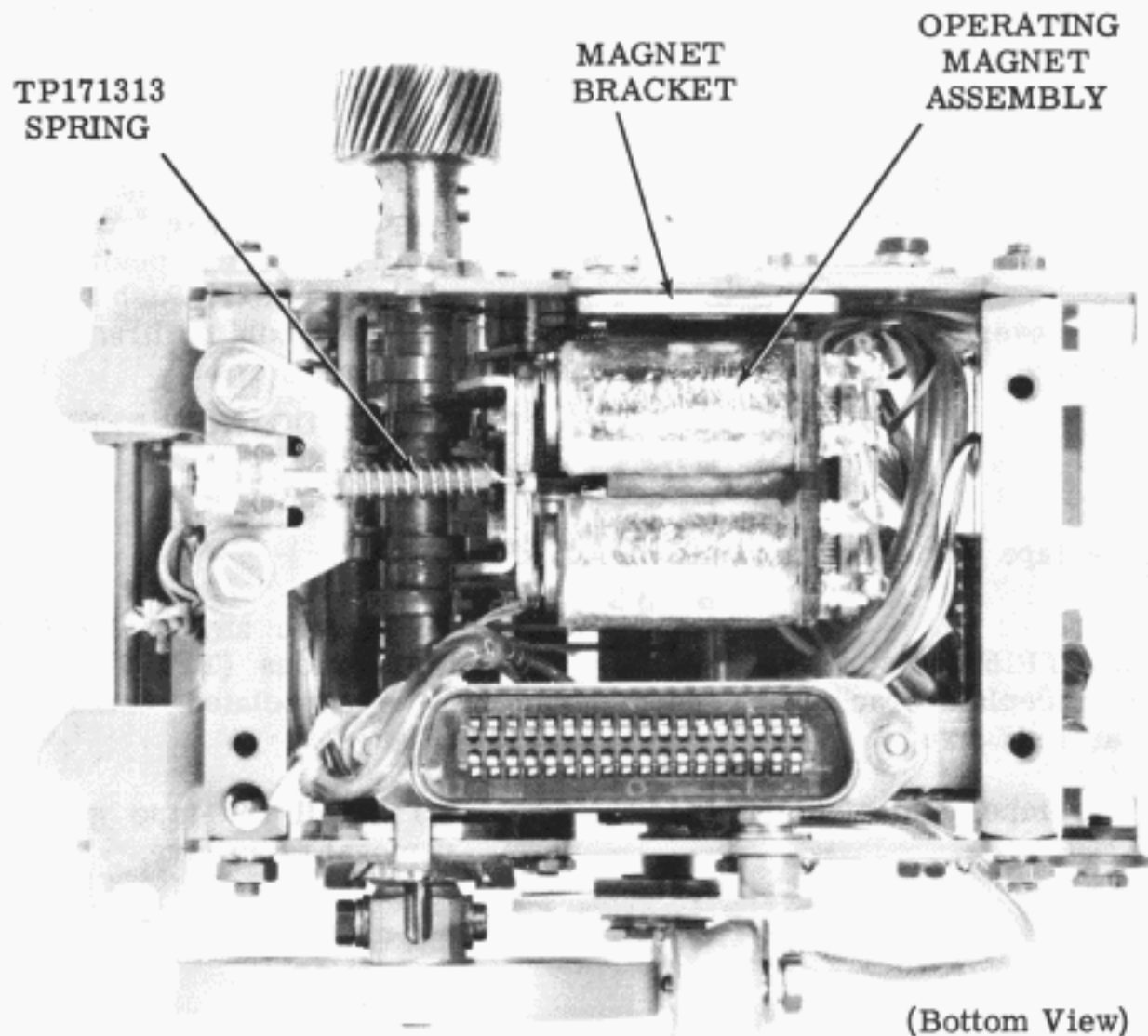


Figure 5 - Tape Reader Unit

- (3) Remove the tape-out contact assembly from the reader.
- 2.10 To install the tape-out contact assembly, reverse the disassembly procedures.

#### START-STOP CONTACT ASSEMBLY

2.11 To remove the TP171237 start-stop assembly from the reader, proceed as follows:

- (1) Unsolder and disconnect the leads from the TP171237 start-stop contact assembly (Figure 4).
- (2) Remove the two TP152893 screws, two TP3640 lockwashers, and two TP125011 flat washers that secure the bracket to the rear plate.
- (3) Remove the TP171237 start-stop contact assembly from the reader.

- 2.12 To install the start-stop contact assembly, reverse the disassembly procedures.

#### OPERATING MAGNET ASSEMBLY

2.13 To remove the operating magnet assembly from the reader, proceed as follows:

- (1) Unsolder and disconnect the two color-coded leads (white, black, yellow and black, yellow) from the magnet terminals.
- (2) Disconnect the TP171313 armature spring from the TP170749 armature extension. See Figure 5.
- (3) Remove the TP156740 screw, TP2191 lockwasher, TP7002 flat washer, and TP150964 shoulder screw which secure the magnet bracket to the rear plate.
- (4) Remove the operating magnet assembly with its bracket from the reader.

2.14 To install the operating magnet assembly in the reader, reverse the removal procedure.

#### COVERPLATE

2.15 To remove the coverplate, lift its left side and carefully pull it off the left side of the reader (Figure 2 and 3).

2.16 To install the coverplate, reverse the removal procedure.

#### TAPE GUIDEPLATE

2.17 To remove the tape guideplate, proceed as follows:

- (1) Loosen the four TP152893 screws securing the tape guideplate brackets to the front and rear plates (Figure 2).
- (2) Gently lift the tape guideplate off the reader.

2.18 To install the tape guideplate, place the tape guideplate on the reader so the mounting brackets just begin to engage their screws. Do not try to force the tape guide down completely.

2.19 Turn the reader to view the left side. Use a TP151959 spring hook and pull back each sensing finger from the underside of the tape guideplate and position them in their respective guide slots. Push the tape guideplate down until the mounting brackets are fully engaged with their screws.

**CAUTION: DO NOT BEND OR DEFORM SENSING PINS.**

#### TAPE GUIDES

2.20 To remove any of the four adjustable tape guides (TP179516 or TP179517), remove the associated nut, flat washer and spring (Figure 3).

2.21 To install the tape guide, reverse the removal procedure.