

AMPEX

CORPORATION

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REDWOOD CITY, CALIFORNIA

MAGNETIC RECORDERS

SERVICE BULLETIN

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MODEL: 350
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(Supersedes Service
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31 August 1954)

MODEL 350 CONVERSION 7½-15 to 3¾-7½ IPS

The following outline is a complete procedure for converting a Model 350 operating at 7½-15" to a Model 350 operating at 3¾-7½". Care should be taken to follow the instructions closely. If care is taken, very little conversion difficulty will be encountered.

The following parts are needed for this conversion:

ELECTRONICS

1 - CO-122 Condenser
1 - CO-325 Condenser
1 - CO-230 Condenser
1 - CO-12 Condenser
1 - RE-608 Resistor

TOP PLATE

1 - 4459-3 Reel Idler Assembly
1 - 6092 Capstan Idler
1 - 5585 Capstan Drive Motor
1 - 5632 Capstan Guard

ELECTRONICS

Record Amplifier

The following components should be changed to the specified values in the record amplifier:

C406 - .0005 mfd to .0003 mfd
C407 - .0001 mfd to .0005 mfd
C425 - .005 mfd to .015 mfd
C426 - .0025 mfd to .005 mfd

Playback Amplifier

Wire unused section of equalization switch S402 into the playback equalization circuit so that C417 (schematic reference number) is connected to the switch's common connector. Break the connection between C417 and R435. Connect the loose end of R435 to a connector lug on this unused section of switch S402 so that an electrical path is made between R435 and C417 when the switch is in the high speed position. Now insert a new resistor (R462-33K + 1%) from the switch common connector to the junction of R435 and the plate of V405 (first tube in the playback amplifier).

Electronic conversion is now complete. Reset 7½" playback equalization curve so that it will conform to published curve located in the instruction manual. The 3¾" playback equalization should operate properly.

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The record amplification should be checked against published curves on both speeds.

Set up complete recorder and make any further adjustments necessary so that the recorder's operation will meet the specifications.

TOP PLATE

Remove the reel idler flywheel from its shaft by loosening the allen set screw which is located in the lower neck of the flywheel. Now remove the two hex head bolts which hold the reel idler to the top plate and lift idler off. Reverse procedure for installation. Care should be taken when installing the idler so that the brass spacer is placed between the idler and flywheel. Sufficient clearance of approximately 5 mils should be allowed so that the flywheel will turn freely after it is mounted in its proper position.

Loosen allen set screw located in end of capstan idler arm and remove the capstan idler. When replacing the idler care should be taken so that when the idler is in its proper position the tape will bisect the rubber tire surface of the idler. Reverse this procedure when installing new idler.

NOTE: If drive motor replacement is necessary, install motor before replacing capstan idler.

To install a new drive motor it is first necessary to remove the capstan idler so that the drive motor mounting screws are accessible, then remove the capstan dust cap #2667. Next, disconnect the drive motor power plug from the top plate control box. Loosen the four screws adjacent to the capstan on the top of the tape transport and gently lower the drive motor. When replacing a new drive motor, caution should be taken so that the proper motor condenser is used with the intended motor. Also care should be taken so that the capstan shaft is not bumped or damaged in any way. Next replace the capstan dust cap #2667 with the combination cap and capstan guard #5632 taking care not to damage the new capstan.

Now that the 3-3/4 - 7 1/2" conversion has been made on the top plate, it will now be necessary to readjust the capstan idler arm so that the idler wheel will present sufficient force to the tape and capstan shaft. Section 4.5.3 in the Model 350 manual outlines this procedure.