

INSTALLATION

2.1 UNPACKING

2.1.1 Console Mounted Equipment

Equipment ordered with the console is shipped with all assemblies mounted on the console, and connections completed between those assemblies. The console lies flat on its back in the shipping package, with the tape transport rotated 90° in the console so that it is in the horizontal position during transit.

Open the shipping container completely, and be sure the casters are screwed fully in so that the studs will not be bent when the recorder is tilted to the upright position. Place a board in position to block the casters. Grasp the console at the rear members between the electronic housing and the tape transport (see Fig. 2-1) and raise the console up and forward so that it comes to the vertical position, resting on the four casters.

A bolt on each side of the transport frame available from the back of the console, secures the transport in position during transit. Manually support the transport and remove the two bolts.

WARNING

THE TRANSPORT IS HINGED OFF CENTER. PERSONAL INJURY COULD RESULT IF THE TRANSPORT IS NOT FIRMLY SUPPORTED WHEN RETAINING BOLTS ARE REMOVED.

Loosen the knurled knob of the screw on the left inner side of the console. Position the transport horizontally, so that the screw will mate with one of the threaded holes, and tighten.

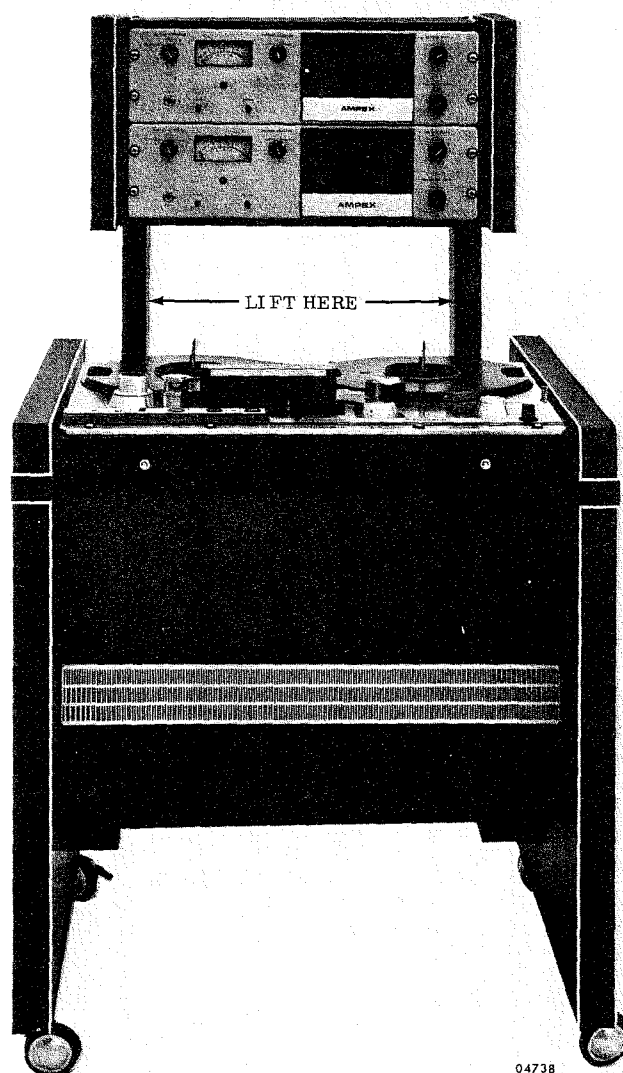


Fig. 2-1 Lift Points, Console Mounted Equipment

Examine the equipment for any sign of damage incurred in transit. If any such damage is noted, report it immediately to your Ampex distributor and the transportation company involved.

2.1.2 Unmounted Equipment

Unmounted equipment is shipped with the tape transport and electronic assemblies packaged separately. Unpack each case, checking for shipping damage. If any has occurred, report it immediately to your Ampex distributor and the transportation company involved.

2.2 MOUNTING

When the equipment is ordered with the console, all assemblies are mounted in position at the factory.

Other equipment can be mounted in standard 19-inch racks, or in custom cabinets. Mounting dimensions are given on Fig. 2-2. The major limitations in such mounting is that tape

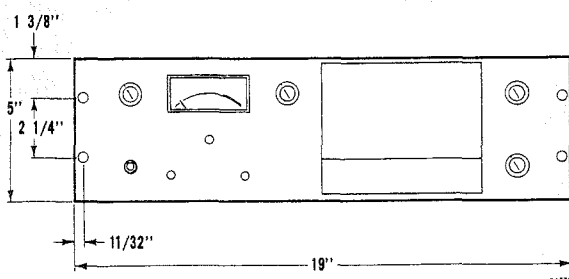
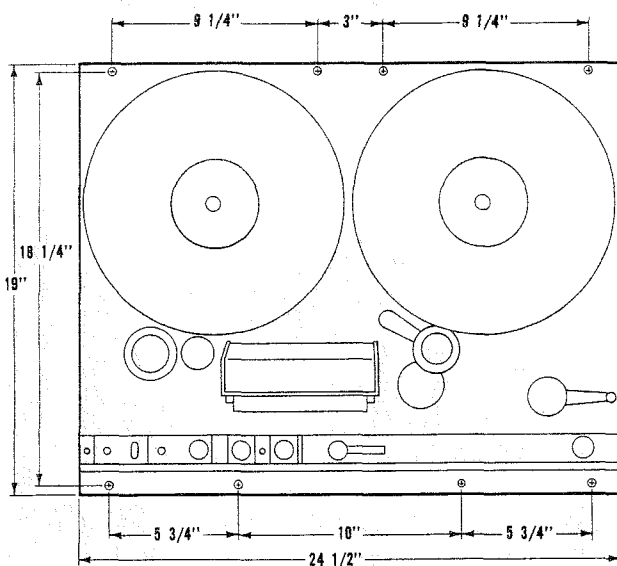


Fig. 2-2 Mounting Dimensions

transport and electronic assemblies must be located so that it is not necessary to lengthen the head cables as supplied. Adequate ventilation must be provided.

2.3 INTERCONNECTING THE ASSEMBLIES

2.3.1 Console Mounted Equipment

All assemblies shipped in a console are interconnected at the factory. It is therefore necessary only to connect the signal leads (refer to paragraph 2.4) and the power cable (refer to paragraph 2.5). If because of maintenance or other reasons it becomes necessary to interconnect assemblies in the console, follow the instructions given in paragraph 2.3.2 (without Sel-Sync) or 2.3.3 (with Sel-Sync). Route the cables as at the factory, with control and bias lines in the right upright (as viewed from the back of the equipment). Signal and head cables are run through the left upright.

Receptacles referenced are shown in Figs. 2-3, 2-4, and 2-5.

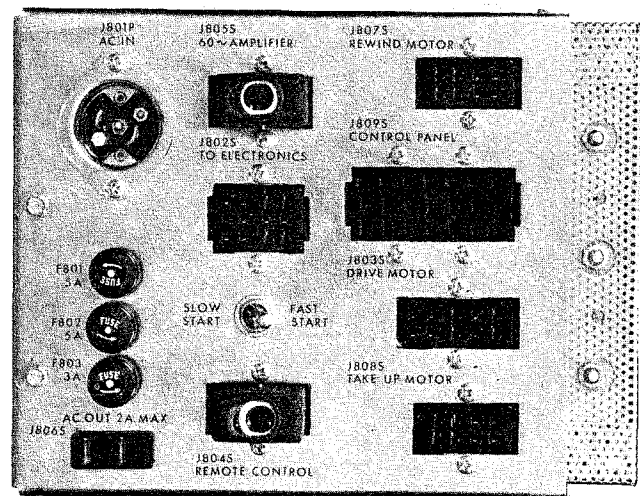


Fig. 2-3 Tape Transport Connector Panel

2.3.2 Unmounted Equipment without Sel-Sync

After mounting such equipment, make the following connections between the assemblies.

- a. Connect the control cable, Catalog No. 4050392, from receptacle J802S on the transport control box to J9 at the back of the electronic assembly. If this is a multi-channel equipment, this cable will have two, three, or four breakouts to correspond to the number of channels. Connect it to J9 at all electronic assemblies.

b. Connect the captive head cables to the applicable connectors on the back of each electronic assembly. If this is a multi-channel equipment, the cables are marked with the head track to which they are connected. Track 1 is furthest from the top plate of the transport.

c. If this is a multi-channel equipment, connect the bias cable, Catalog No. 4050160, between BIAS COUPLING connectors J12 on all electronic assemblies. For two channel equipment one bias cable is supplied, which is connected directly between J12 on the two assemblies. For three channel equipment, two bias cables and one "T" adaptor are provided; insert the adaptor in J12 on the middle assembly and the two cables from the adaptor to the other two assemblies. On four channel equipment three cables and two adaptors are supplied; insert the two adaptors in J12 on the middle two assemblies and connect the three cables.

2.3.3 Unmounted Equipment with Sel-Sync

a. Connect the control cable, Catalog No. 4050392, from receptacle J802S on the transport control box to J1P at the back of the Sel-Sync

assembly.

b. Connect the control cables, Catalog No. 4050393, from J9 on each electronic assembly to J2S through J4S (three channel equipment) or J2S through J5S (four channel equipment). These cables are supplied in different lengths, one for each channel, to allow convenient connections between the Sel-Sync and electronic assemblies.

c. Connect the record head cables, captive at the tape transport to J6P, J10P, and J14P (three channel equipment) or to J6P, J10P, J14P, and J18P (four channel equipment). These connectors correspond to tracks 1 through 3 or 1 through 4 respectively.

d. Connect the separate record head cables furnished with the equipment from Sel-Sync connectors J8P, J12P, and J16P (three channel equipment) or J8P, J12P, J16P, and J20P (four channel equipment) to record head connector J8 at each electronic assembly. These cables are again supplied in different lengths, one for each channel. Connectors correspond to channels 1 through 3 or 1 through 4 respectively.

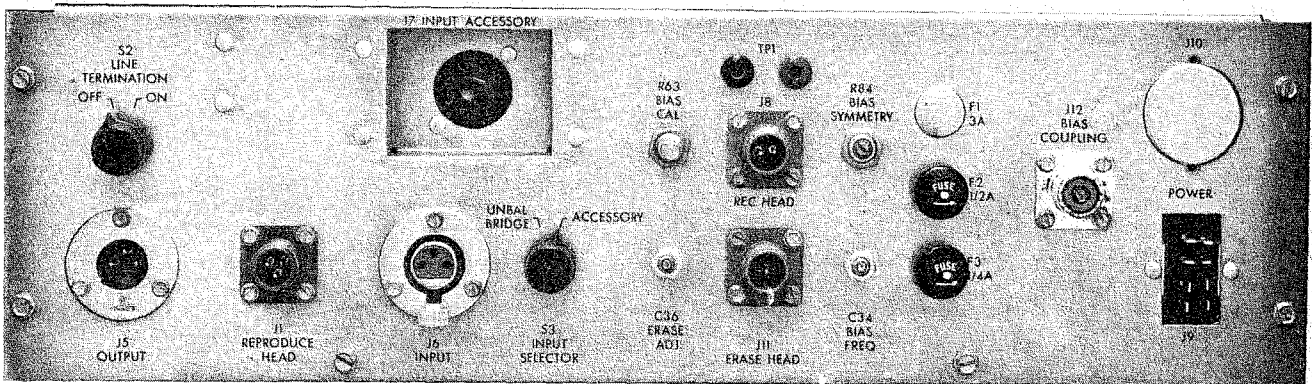
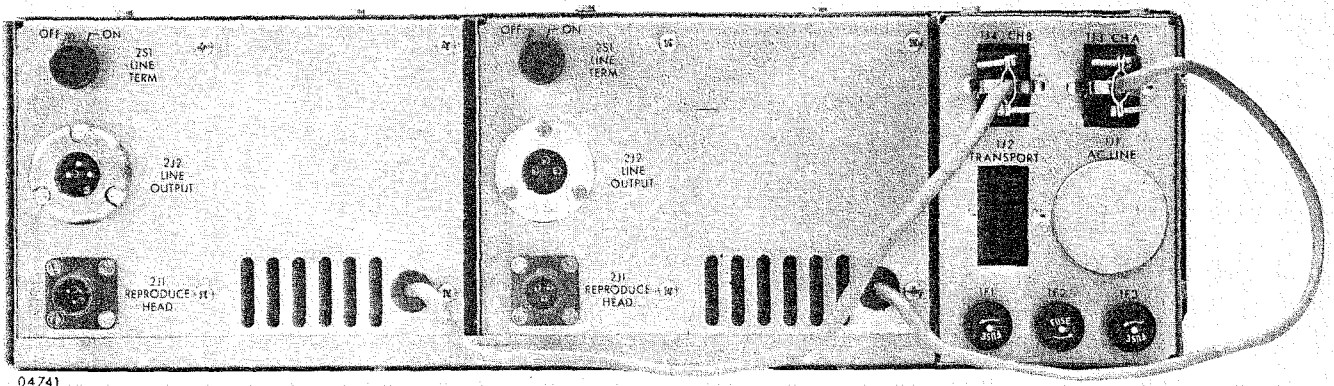


Fig. 2-4 Rear View, Record/Reproduce Electronic Assembly

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Fig. 2-5 Rear View, Reproduce-only Electronic Assembly

e. Connect the playback head cables, captive at the tape transport, to Sel-Sync connectors J7P, J11P, and J15P (three channel equipment) or J7P, J11P, J15P, and J19P, (four channel equipment). Connectors correspond to tracks 1 through 3 or 1 through 4 respectively.

f. Connect the separate playback head connectors from Sel-Sync connectors J9P, J13P, and J17P (three channel equipment) or J9P, J13P, J17P, and J21P (four channel equipment) to playback head connector J1 on each electronic assembly. Connectors correspond to channels 1 through 3 or 1 through 4 respectively. One cable is supplied for each channel.

g. Connect the bias cable between electronic assemblies as described in paragraph 2.3.2 (c).

2.4 CONNECTING SIGNAL LINES

2.4.1 General

Input and output receptacles are standard XL connectors, female and male respectively, located on the back panel of the electronics assembly. Mating plugs for these receptacles are provided with the equipment.

On console mounted equipment, remove the back panels from the electronic housing and the transport housing. Insert the signal lines through the hole on the inward side of the left upright (as viewed from the back of the recorder) that supports the electronic housing. Route the lines up through this hollow upright, then fan them out from the rear of the upright to the applicable electronic assembly. (After entering the upright, these lines follow the same general path as the head cables.) Note that the power cable should also be connected before reinstalling the back panels (refer to paragraph 2.5).

2.4.2 Input Connection and Switching

To connect an unbalanced line input, wire the signal leads to pins 2 (ground) and 3, and the shield to pin 1; then jumper pin 2 to pin 1. With this connection, place the INPUT SELECTOR switch on the back of the electronic assemblies in the UNBAL BRIDGE position.

To connect a balanced line or microphone input, wire the signal leads to pins 2 and 3, and the shield to pin 1 (ground); do not jumper pins 2 and 1. With this connection, place the INPUT SELECTOR switch in the ACCESSORY position. One of the optional input transformers or the optional microphone preamplifier (refer

to Section 1) must be inserted in octal socket J7 (INPUT ACCESSORY) at the back of the electronic assemblies whenever a balanced line input is used.

2.4.3 Output Connection, Strapping, and Switching

To obtain an unbalanced line output, wire the signal leads to pins 2 (ground) and 3, and the shield to pin 1; then jumper pins 1 and 2.

For a balanced line output, wire the signal leads to pins 2 and 3 and the shield to pin 1; do not jumper pins 1 and 2.

The equipment is shipped from the factory strapped for a +8 dbm operating level output into a 600 ohm line. This can be changed to a +4 dbm operating level output by removing the top service cover from the electronic assembly and re-strapping the terminal board in the upper back corner (above the LINE TERMINATION switch). Restrap the board as indicated on the schematic diagrams (see Figs. 7-3 or 7-6).

In most instances, the LINE TERMINATION switch on the back panel of the electronic assemblies is to be left in the OFF position except during tests and adjustments. However, if the equipment is to drive a high impedance load (2000 ohms or more) leave that switch in the ON position.

2.5 CONNECTING POWER

The power cable, which is provided, connects from receptacle J801P on the back of the tape transport to the power source. On console mounted equipment, the back panel of the transport housing must be removed. Route the power cable through the right-hand oblong hole in the console cross member to connector J801 on the transport.

2.6 INSTALLING PLUG-IN EQUALIZERS

Receptacles for the plug-in equalizer modules of record/reproduce equipment are located behind a cover, secured by two screws to the front panel of the electronic assemblies (see Fig. 2-6). The low speed equalizer is inserted in the left-hand receptacle (as viewed from the front), the high speed equalizer in the right-hand receptacle. Equalizer modules are marked for the tape speed with which they are to be used, and for the type of equalization (NAB, CCIR, etc.).

On reproduce-only equipment, the equalizer circuits are built into the electronic assembly, so no plug-in modules are employed.

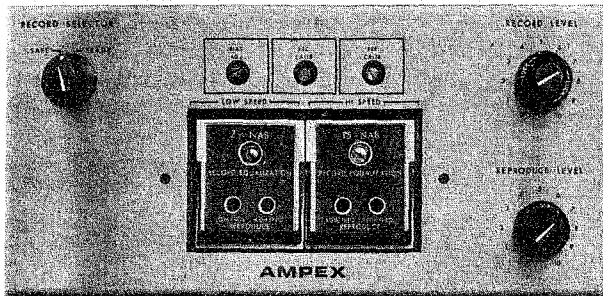


Fig. 2-6 Plug-in Equalizer Modules

2.7 INSTALLING ACCESSORY ITEMS OR DUMMY PLUGS

2.7.1 Electronic Assemblies

As previously noted, either of two transformers (for a balanced line input) or a microphone preamplifier can be inserted in octal socket J7 on the back panel of the electronic assembly. When any such accessory is used, the INPUT SELECTOR switch is placed in the ACCESSORY position. No dummy plug is required if an accessory is not used; the INPUT SELECTOR switch is simply placed in the UNBAL BRIDGE position. The microphone preamplifier has a switch which selects either 40 or 60 db gain in this unit, when the preamplifier is used, place this switch in the position applicable to the microphone being used.

2.7.2 Tape Transport

2.7.2.1 Motor Drive Amplifier

A precision drive amplifier for the capstan motor can be connected at J805S on the tape transport. The a-c power to the amplifier is taken at pins 1 and 4 of this connector, and the precision frequency a-c drive for the capstan motor is delivered to pins 5 and 8.

If a motor drive amplifier is not employed, a dummy plug (provided) must be inserted in J805S or the capstan motor will not operate.

2.7.2.2 Remote Control

A remote control unit can be connected to receptacle J804S on the tape transport control box. Ampex does not offer this item as an accessory unit, but one can be easily constructed by following the circuit shown in Fig. 2-7. The dummy

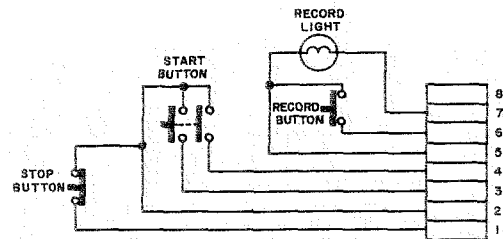


Fig. 2-7 Suggested Remote Control Circuit

plug provided with the transport can be used as a mating connector by removing the jumper.

In fabricating a remote control unit, Class I wiring must be used. Switches are available from Ampex under part numbers 120-025 (START), 4620144-10 (RECORD), and 4620144-20 (STOP). If purchased from vendors, these switches must be equivalent to Arco Electric switch number 2MD3-1A (two each, with mounting bracket A-14) for the start function, A.H. and H. switch 82795 (normally open) for the record function, and A.H. and H. switch 82795 (normally closed) for the stop function. The record indicator lamp must be 120 volts, 6 watts, with U. L. approved base. All of this is in accordance with U. L. requirements.

If a remote control unit is not used, the dummy plug (as furnished) must be inserted in J804S or the equipment will not operate.

2.8 PREPARING FOR OPERATION

2.8.1 Shipping Lock and Motor Return Spring

A shipping lock is installed to prevent the drive motor pulley from contacting the rubber tire of the capstan flywheel during transit. This lock is located, with the drive motor return spring, on a bracket at the unmounted end of the drive motor (see Fig. 2-8). Remove this lock before attempting to operate the equipment (the capstan will not rotate unless the lock is removed).

CAUTION

IF THE EQUIPMENT IS EVER RE-SHIPPED, INSTALL THIS SHIPPING LOCK. THE TIRE ON THE CAPSTAN FLYWHEEL MAY BE DAMAGED IF THIS IS NOT DONE.

Also, a stronger drive motor return spring (see Fig. 2-8) is required if the transport is to be operated in the vertical position, such as in a rack. The correct spring for vertical operation is provided with the equipment; if the transport is to operate in this position, remove the

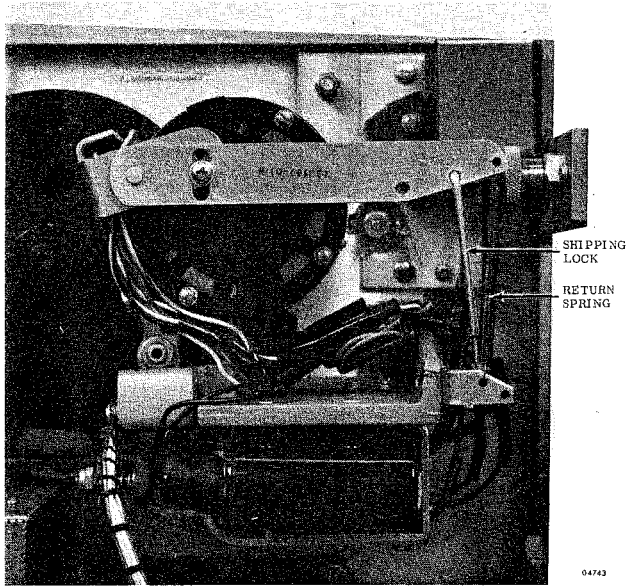


Fig. 2-8 Shipping Lock and Motor Return Spring

spring on the equipment and replace it with the

other spring.

2.8.2 Fast/Slow Start Switch

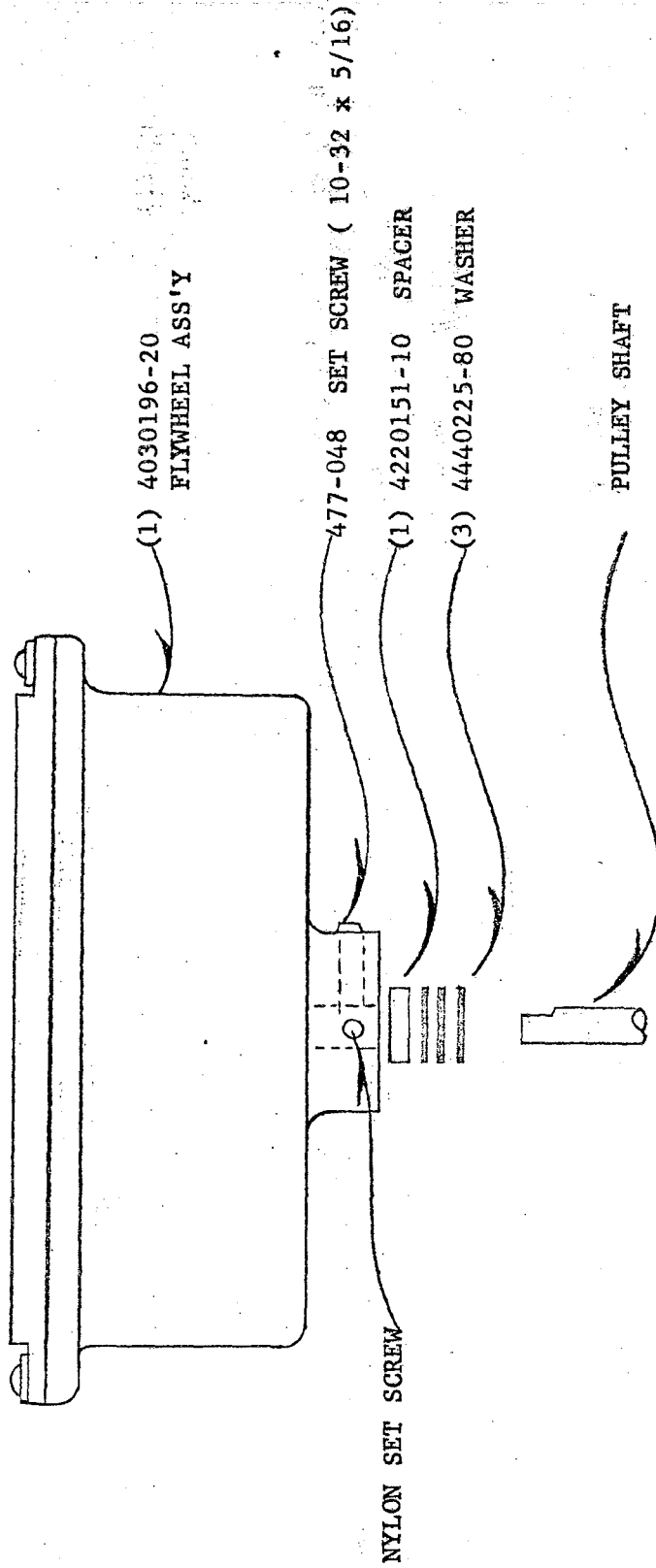
This switch is located on the tape transport control box. In the FAST START position, the capstan will be in rotation whenever power is applied to the equipment. In the SLOW START position, the capstan will not start to rotate until the START pushbutton is pressed for the play or record modes. Place the switch in the desired position.

2.8.3 Reel Idler Flywheel

The reel idler flywheel is not mounted on the transport when the equipment is shipped from the factory. Slip it over the reel idler shaft (see Fig. 4-6), so that the set screw is over the flat on the shaft. Do not press it tightly against the idler bearing, leave one or two thousandths of an inch clearance between the bearing and flywheel. Tighten the set screw to secure the idler in position. If the equipment is ever re-shipped, remove the flywheel to prevent vibration in transit from damaging the idler bearings.

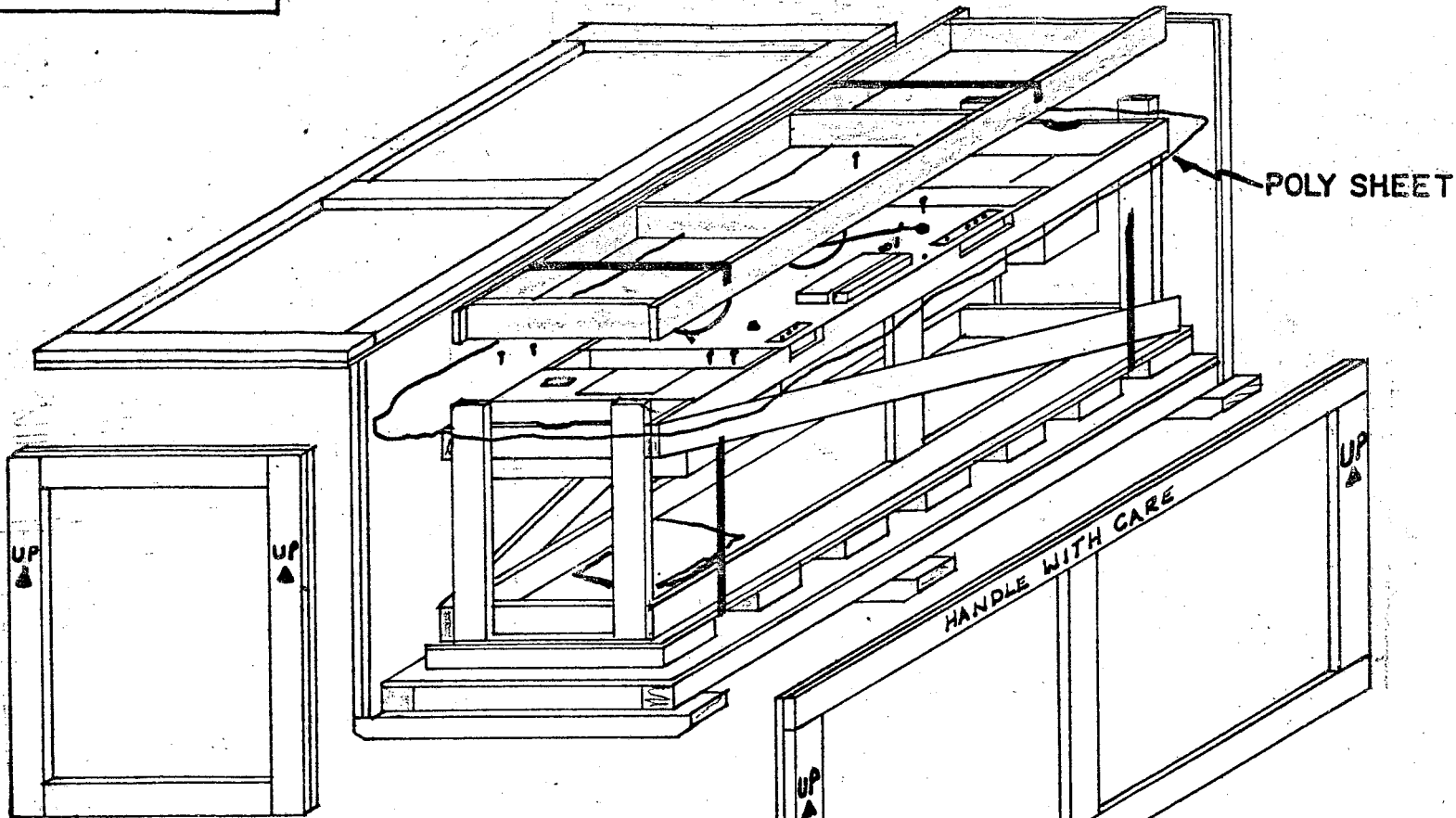
ASSEMBLY INSTRUCTIONS

NOTE: For shipping transport assembly- remove flywheel assembly and protective wrap to prevent damage to Idler Pulley and loss of Pulley Spacer Washer, tape in place to transport face. Tape spacer and washers to Pulley Shaft.



For installation assemble Flywheel to Reel Idler Pulley as shown. Inspect for burrs and do not force flywheel on Pulley Shaft.

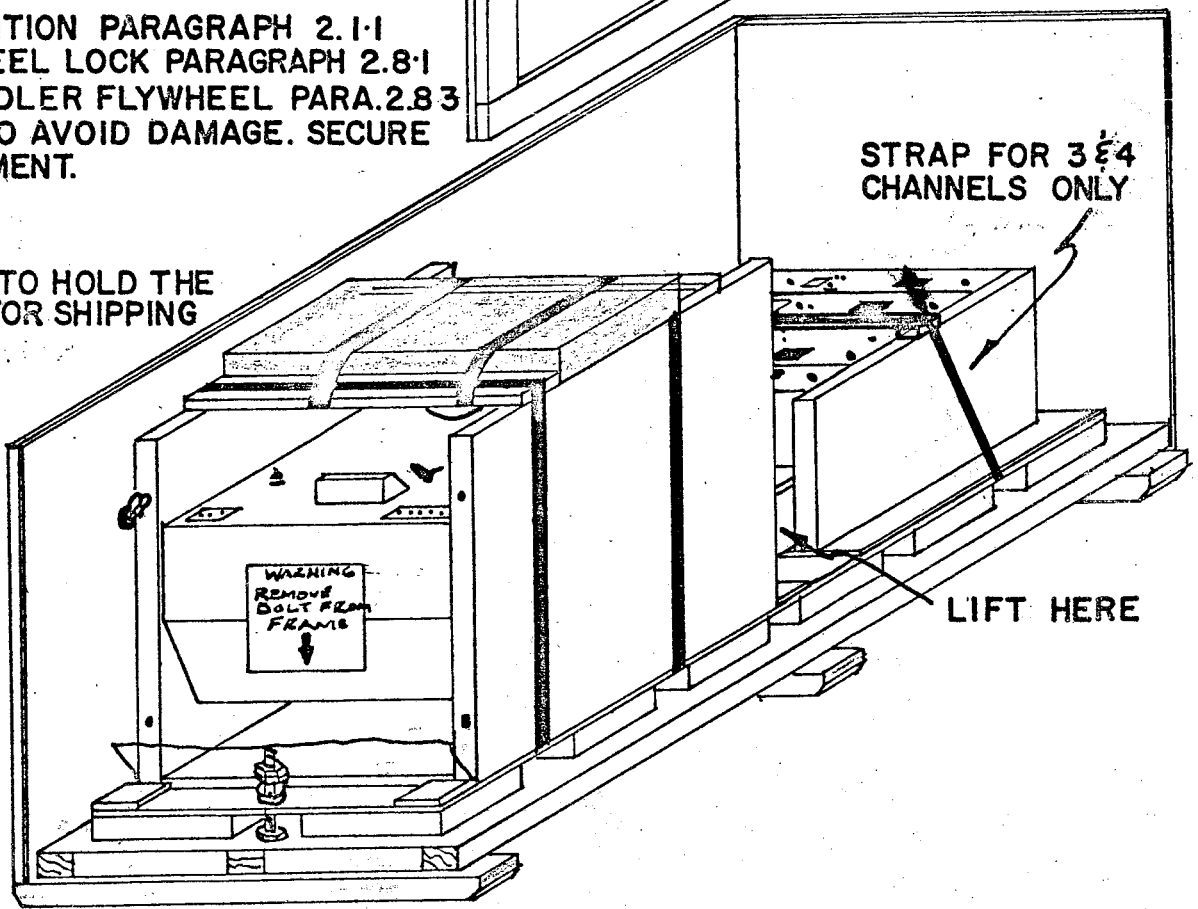
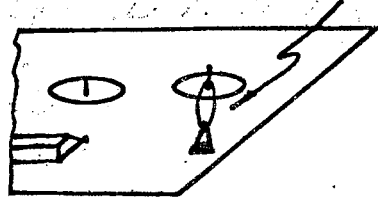
See operation and instruction manual Para. 4.4.1 page 4.8 for location.



REFER TO AMPEX MANUAL (4890163) FOR THE FOLLOWING INFORMATION.

- (1) TRANSPORT POSITION PARAGRAPH 2.1.1
- (2) CAPSTAN FLYWHEEL LOCK PARAGRAPH 2.8.1
- (3) REMOVE REEL IDLER FLYWHEEL PARA. 2.8.3
(PACK FLYWHEEL TO AVOID DAMAGE. SECURE IN CRATE FOR SHIPMENT.)

USE A RUBBER BAND TO HOLD THE TENSION ARM SNUG FOR SHIPPING



WARNING
REMOVE BOLT FROM
FRAME
↓

RELOCK BASE NUT AFTER INSTALLING CONSOLE