

# Installation Instructions

## Installing a CDM-12 Player into a CDM-3 Mechanism *a cdm-4* (Kit #66505907)

These instructions provide procedures to help you install a CDM-12 player into an existing CDM-3 mechanism. CDM-3 mechanisms were used on all CD-100's, CD100A's and some CD100B's, CD51's, and Hideaways.

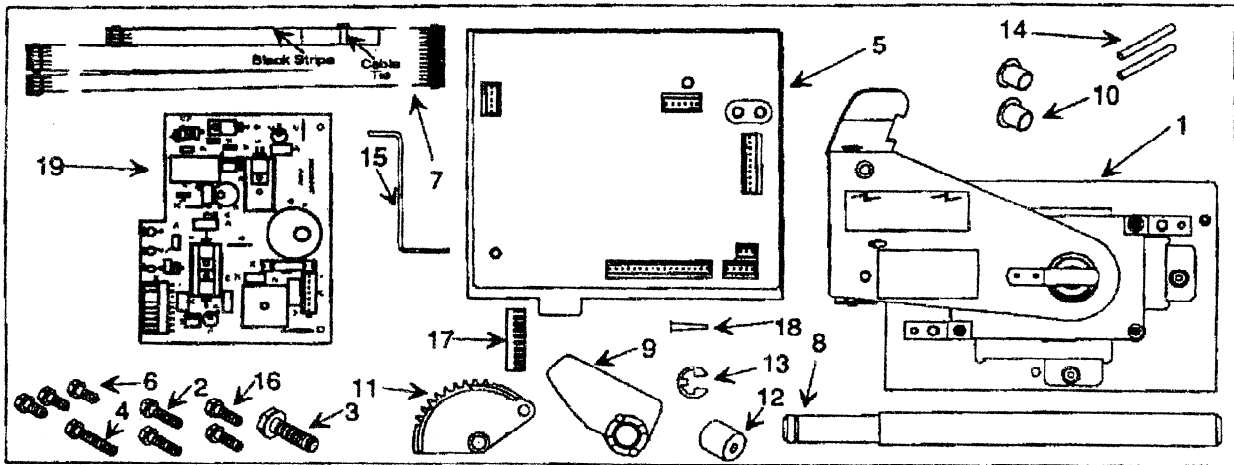


Figure 1. Kit Parts

### Required Parts List

Ref.	Description	Part No.	Qty.
	This Instruction Sheet	21999501	1
1	Plate and Player Assembly	61092401	1
2	8-32 x 5/8" Hex WHMS	80743010	2
3	1/4-20 x 1" Sems Hex WHS	80715716	1
4	8-32 x 1" Hex WHMS	80743016	1
5	Mech Control Assembly	61086201	1
6	8-32 x 1/4" Hex WHS	80443004	3
7	Ribbon Harness	40871601	1
8	Cam Drive Shaft	21813202	1
9	Hold Down Cam	30930002	1
10	Nyliner Bearing	70146005	2
11	Sector Gear	40720502	1
12	Spacer	70121739	1
13	External Retaining Ring	70143010	1
14	Roll Pin (.131 x .135 x 11/16")	70113003	2
15	Reinforcement Bracket	30967602	1
16	8-32 x 3/8" Hex WHMS	80443006	2
17	Connector Housing (10-Position)	70075510	1
18	Keying Plug	70075701	2
19	Power Supply Circuit Board Assembly	61086501	1

**TOOLS REQUIRED:** A 1/4" and 3/8" nut driver, a 1/16" and 3/16" drift punch, a small hammer, pliers, and a slot head screwdriver (small blade).

## INSTALLATION PROCEDURES

**NOTE:** Turn main power off. Disconnect main harness connections from CD mechanism and check that other restraints are free.

Remove the CD Mechanism from the jukebox.

1. Disconnect all of the Mech and Decoder wire harnesses from the mech assembly on the CDM-4.
2. Loosen the two screws located on the right hand side of the mech that retain the Mech and Decoder assembly and remove the assembly.
3. Remove the Cancel switch (leaving the wires attached) and counters located on the mounting plate, then remove the wires connected to the circuit breaker.
4. Remove the 1/4-20 screw and the 8-32 screw located near the hold down hinge. Remove the 8-32 screw located on the far right of the mounting plate, near the Mech and Decoder assembly, then remove the mounting plate with player and fiber insulating sheet. These mounting points are in the same relative positions as those shown in *Figure 4b*.
5. Look at the hold down cam and see if it looks like the one in this kit. If it does look the same, skip to Step 17.

**NOTE:** The following steps can be done without removing the CD's, but care must be taken to not shake the top discs out of the magazine.

Reference **Figure 3** for steps 6 through 16.

6. Remove rotator by unscrewing the 6-32 screw.
7. Remove the two screws and washers that retain the gripper bow's trunnion pin in place. Pull out the trunnion pins and gripper bow assembly.
8. Rotate the cam switch cam so that the transfer link is in the uppermost position. Using a 1/16" diameter drift punch **gently** tap the .082 diameter roll pin out of the cam shaft and sector gear.
  - a. Remove the retaining ring from the transfer link at the sector gear.
9. Slide the cam shaft assembly out of the mech's base casting. Remove the sector gear from inside the mech casting.
10. Remove the two large nyliner bearings from inside the base casting, one inside and one outside.
11. Install the two new nyliner bearings supplied in this kit.
12. Assemble hold down cam to the new cam shaft with (1) roll pin and retaining ring provided with this kit. Slide cam shaft assembly with bowed washer (removed from original cam shaft) through the nyliner bearings just installed, stopping slightly short of where the sector gear attaches. Be sure to apply a drop of light machine oil to the inside of the nyliner bearings.
13. Remove the nyliner bearing from the old sector gear and install it on the new sector gear if necessary. The new gear should have new nyliner.

- a. Place the new sector gear into the mech base in the same orientation that the original gear was in, with link hole toward the front of the mech. Using a 3/16" diameter drift punch, tap the new .131 diameter roll through the cam shaft and the "V" of the new sector gear. The roll pin should protrude equally on both sides of sector gear "V".

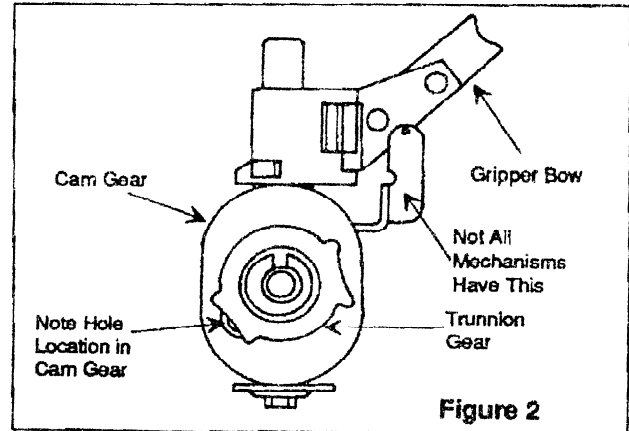


**NOTE:**

It is possible to install the sector gear and have the relationship of the sector gear and the hold down cam 180° out of alignment. The completed assembly should appear as in *Figure 3* with both sector gear and hold down cam lobe pointing in the up direction. If a mistake was made in the pinning operation, it is only necessary to remove the retaining ring, holding the hold down cam in place. Rotate the cam 180° and replace the retaining ring.

- b. Reinstall the transfer link assembly that comes from the transfer motor assembly using the retaining ring that was previously removed.

14. a. Rotate the cam switch cam so that the transfer link is in its full down position.
- b. Rotate the cam gear on the gripper bow assembly so it looks like *Figure 2*.
- c. Place the gripper bow assembly into the mech base casting.



15. Reinstall the two trunnion pins. Verify that the gripper bow has full movement when the cam switch's cam is rotated. If the gripper bow does not move properly, repeat the beginning of Step 14.

16. Reinstall rotator using the previously removed 6-32 screw.

17. Remove the transformer located on the mech support frame by removing the two (2) mounting screws. Remove wire connections from the mech harness (17-pin connector) or just cut the wires.

18. Before installing CDM-12 plate and player assembly, loosen hold down brackets (*See Figure 4b*) and remove CDM-12 player. **SPECIAL CARE MUST BE TAKEN TO INSURE THAT NO CONTAMINATION GETS INTO THE PLAYER.** Set the player aside until after the mounting plate and the new mech control unit has been assembled.

19. With the gripper bow in the magazine (standby position), install new CDM-12 mounting plate assembly. Attach using the 1/4-20 x 1" hex head screw with (1) 8-32 x 5/8" screw and (1) 8-32 x 1" screw. Spacer 70121739 goes under the mounting plate on the left side and requires the 8-32 x 1" screw for mounting. The three screws go in the same relative locations as the previous mounting plate (*See Figure 4b*).

20. a. Before installing reinforcement bracket 30967602 (*See Figure 4a*), remove the cable clamp that is on the bottom of the base casting. Relocate the clamp so that the mounting screw hole is toward the back of the mech and install bracket and clamp with (2) 8-32 x 3/8" screws. Secure the top of the reinforcement bracket is with (1) 8-32 x 1/4" screw through the mounting plate assembly.

- b. Install the previously removed cancel switch and (2) counters to the CDM-12 mounting plate, using nut and screws removed earlier. Locations are indicated on the mounting plate. The counter with the white background digits is the money counter.

- c. Before installing the new mech control assembly, connect the 14-pin connector of the ribbon harness to P2 of the mech control assembly. Connect the optical switch harness to P1 of the new mech control assembly. *These connections will be difficult to assemble after the mech control assembly is in place.*

- d. The new mech control assembly has a metal tab extending from the base plate that inserts into the slot of the support frame and the flange of the assembly mounts on top of the CDM-12 mounting plate (*See Figure 4b.*) with (2) 8-32 x 1/4" screws. Route the ribbon harness through the cable clamp installed with reinforcement bracket so that the wire tie is to the right-hand side of the clamp.

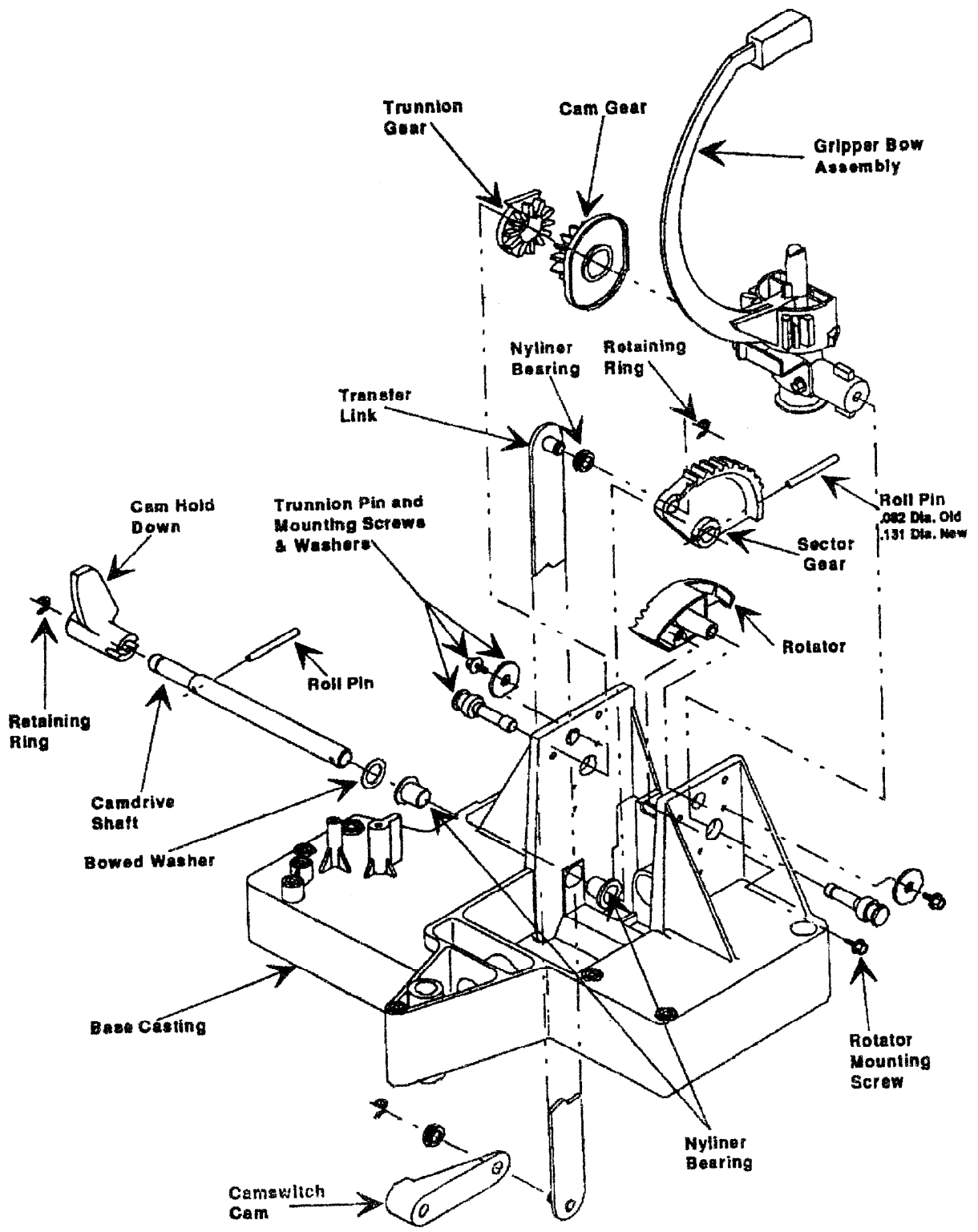


Figure 3

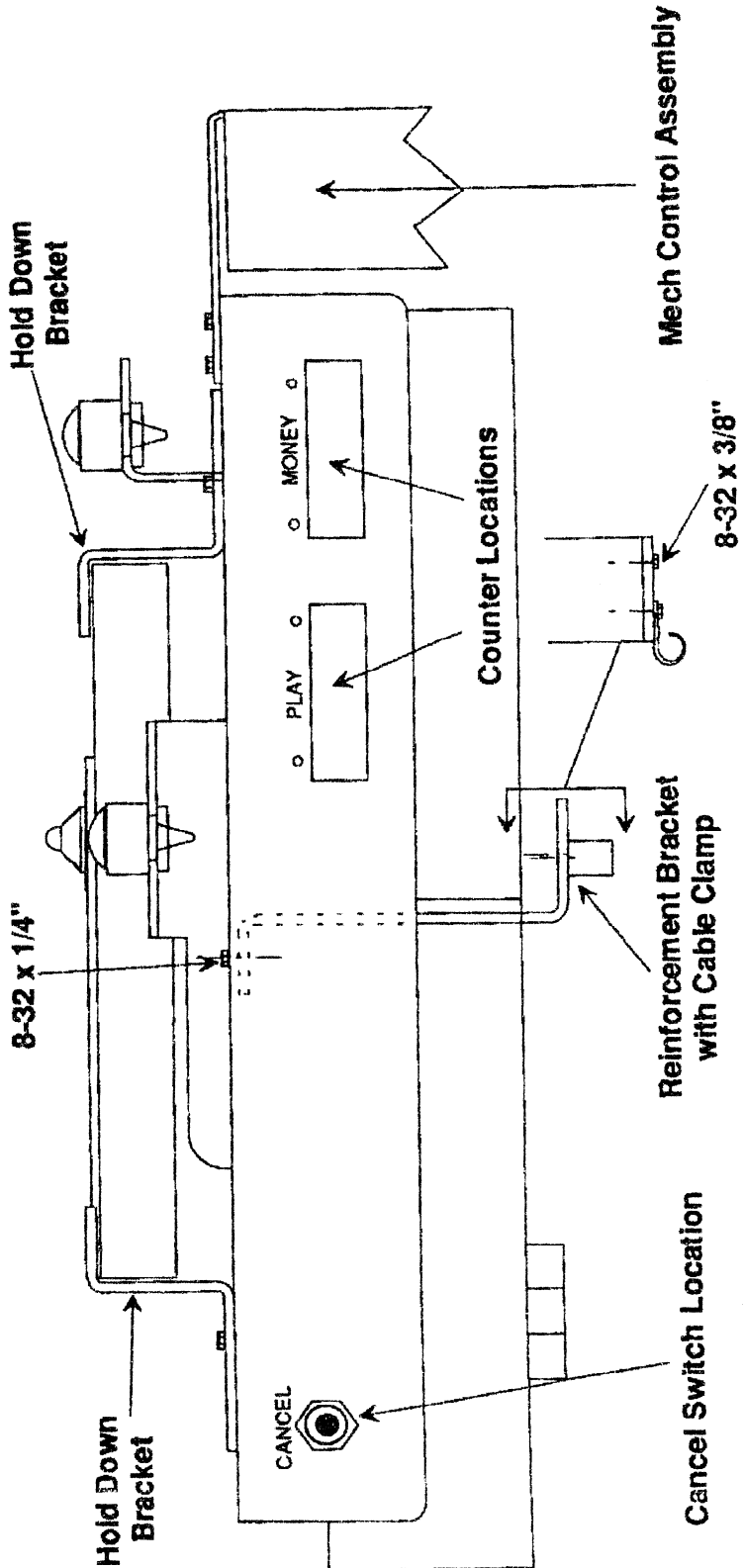
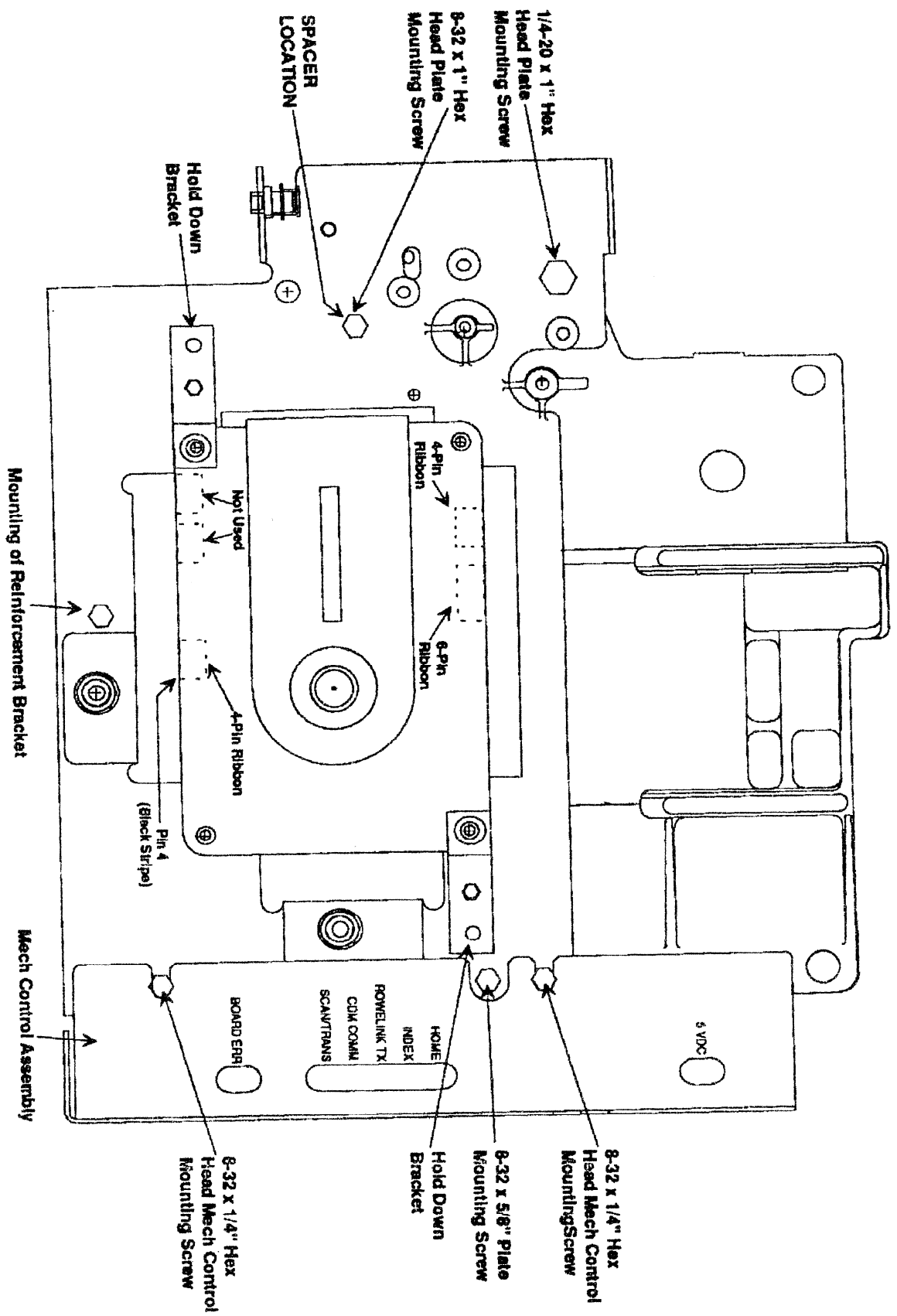


Figure 4a.



NOTE: Hold-down assembly not shown for clarity

Figure 4b.

21. **Before** installing the CDM-12 player onto the mounting plate, connect the 4-pin connector with the black stripe to the player circuit board connector facing the front of the mech. Route this portion of the harness through opening in mounting plate. Connect the remaining connectors, a 4-pin and a 6-pin, through the opening of the mounting plate to the player circuit board connectors facing the back of the mech. After replacing the player, adjust the hold down brackets and tighten the mounting screws (See Figure 4b).  
**NOTE: Make certain that the player mounting suspension is free.**
22. Arrange the mech harness to allow the 17-pin connector room to attach to P7 of new mech control assembly. Cut the restraining tie if necessary. Attach counter harness connector to P3 of the mech control assembly.
23. For locations of harness connectors to the new Mech Control assembly See Figure 5.

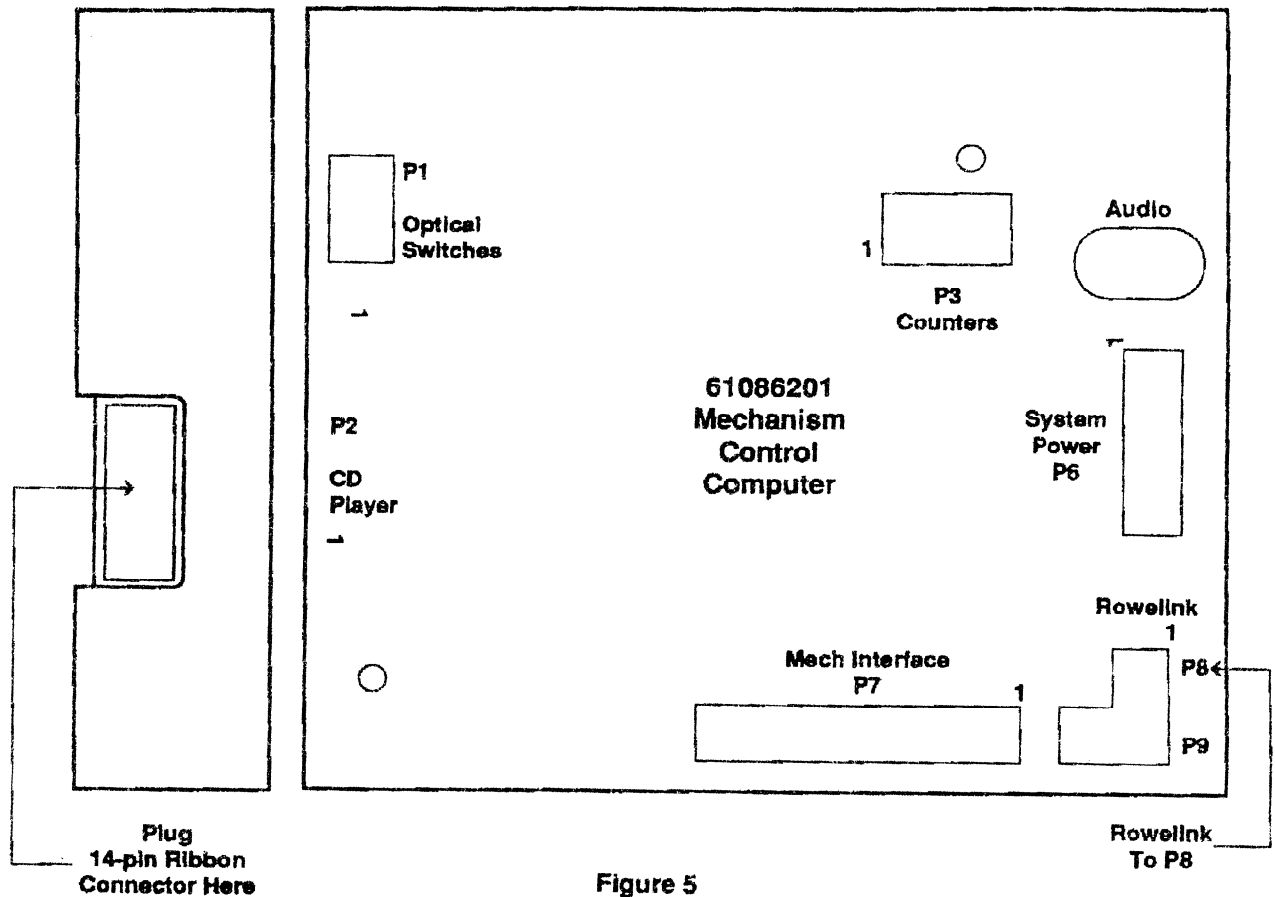


Figure 5

The Main Phonograph harness connections are Rowlink to P8. The audio phono cable plugs and system power connect to P6.

The kit contains (1) 10-position connector housing and (2) keying plugs that will mate with P6 system power. To prevent damage to the mech control and the CDM-12 player circuit board assemblies, remove wires from existing connectors P7 and P10 and assemble them into new 10-position housing as shown in *Figure 6*.

24. The black/white wire located in pin 6 of P6 (System Power Connector) has a 3-way red splice located about 10" from the mech control assembly. This splice contains a white/black wire that must be cut from the splice.

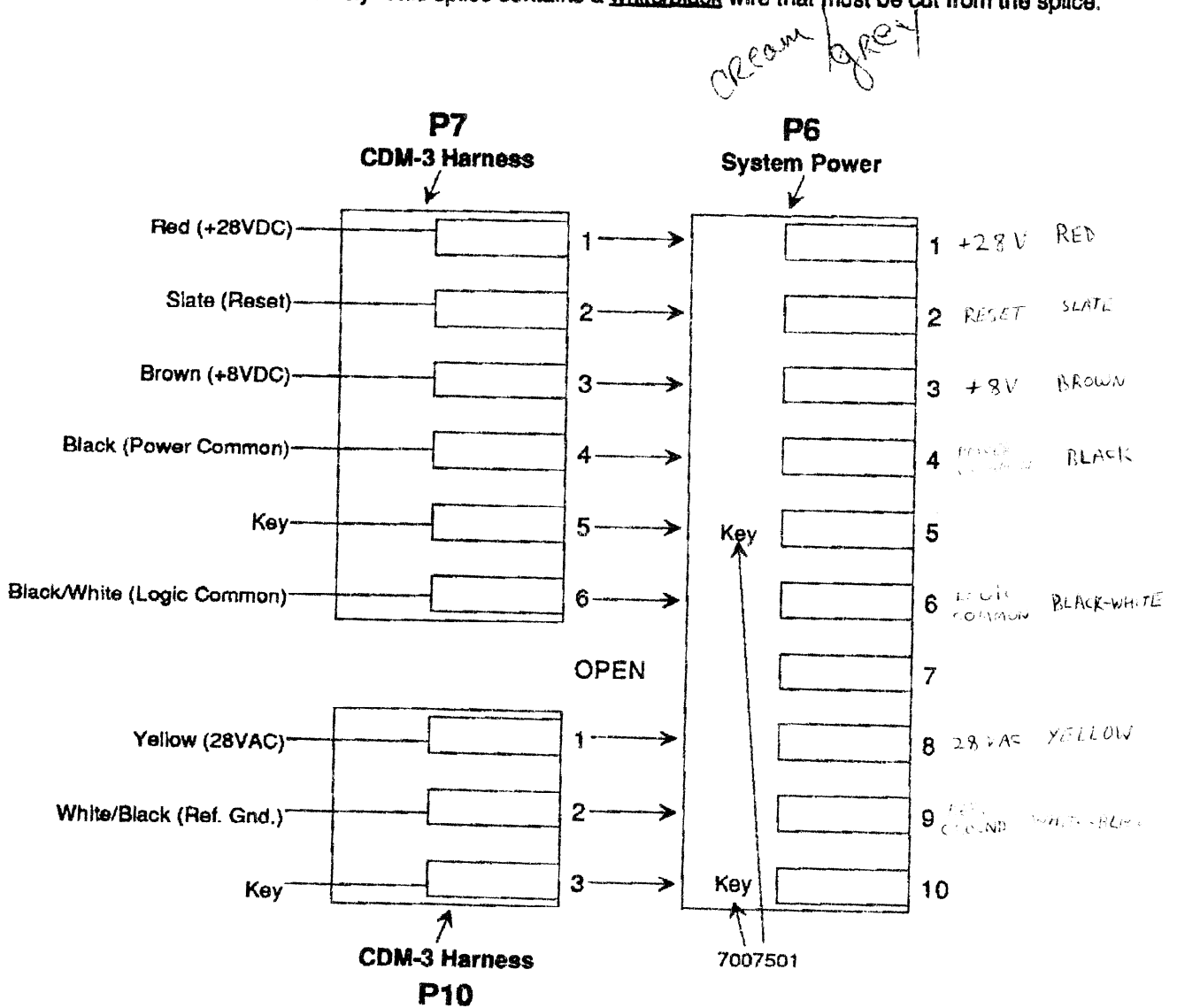


Figure 6



## **Main Power Supply**

- A. Remove main power supply from phonograph.
- B. Replace the old circuit board assembly with new assembly 61086501. The new board does not use power transistor connections. Dress these wires out of the way.
- C. The 8-position connector from the transformer has a black wire in pin 4. Cut this wire at both ends.
- D. Reassemble the power supply and install back into the phonograph.

25. Reinstall the CD Mechanism in the phonograph.

26. Test by placing the mech in *SERVICE* mode and rotating magazine with the use of the *CANCEL* button, then test it in *NORMAL* mode by playing a disc.