

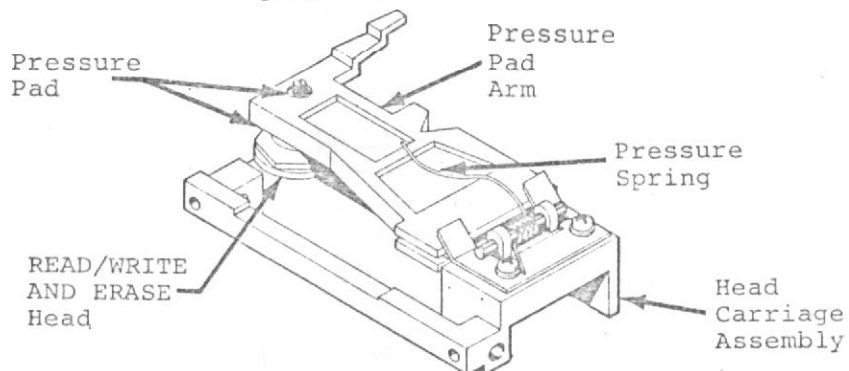
ADJUSTMENTS

READ/WRITE & ERASE HEAD CLEANING & DEMAGNETIZATION

Both the head and the pressure pad will accumulate dirt and oxide particles during use. Periodic cleaning and inspection is necessary for proper Disk Drive operation.

CAUTIONS: The head is subject to magnetization from external fields. DO **NOT** use magnetized tools or allow the head to get near any equipment producing strong magnetic fields.

DO NOT lift the pressure pad arm farther from the head carriage than the arm would be lifted during normal Disk Drive operations (ie. front door open).

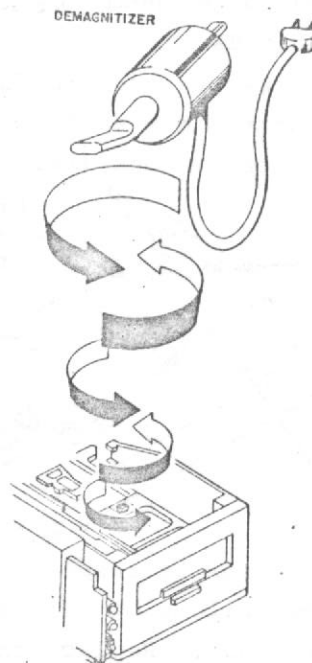


1. Use a small mirror to inspect the pressure pad for excessive buildup of oxides and dirt, or for excessive wear. Replace the head if it is worn or damaged.
2. Otherwise, clean the head.

NOTE : Use either a cotton swab (preferred) or a lint-free cloth (ie. chamois) moistened with either methyl or high quality 31% isopropyl alcohol. Wipe the head carefully to remove all accumulated oxide and dirt. Dry the head.

CAUTION: DO NOT use carbon tetrachloride as a cleaning solution for the head.

3. To demagnetize the head, hold the energized demagnetizing tool about 6 inches above the head. Slowly lower the tool toward the head in a spiraling motion. ~~DO NOT~~ allow the tool to come into contact with the head.



4. Reverse the procedure as you lift the tool away from the head. DO NOT turn the tool off until it is at least 6 inches away from the head.

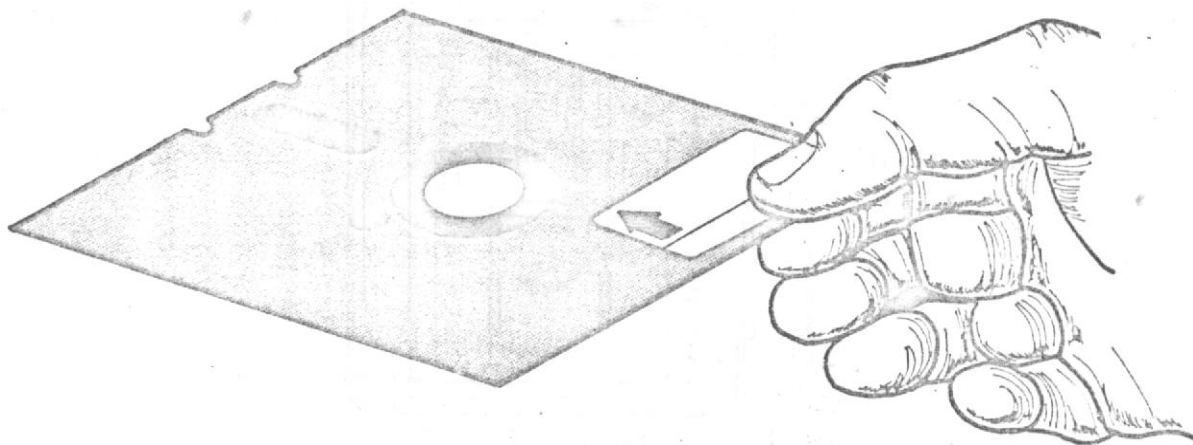
RADIAL TRACK ALIGNMENT & SPEED ADJUSTMENT

Radial track alignment and speed adjustment is necessary to provide optimum diskette compatability between Drives.

The following are required to perform this procedure:

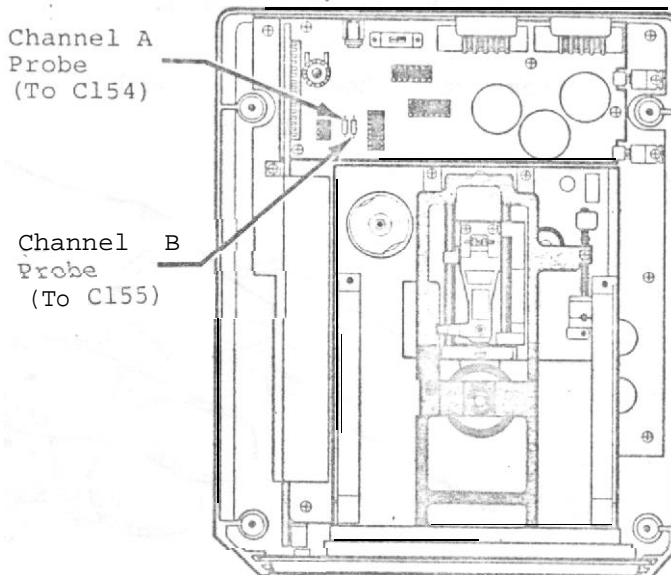
- A. Oscilloscope, dual trace with A+B function, and B invert function, with two probes.
- B. **Atari 400/800 Computer Console with minimum 16 K RAM** installed.
- C. **I/O cables** and Console/Drive power packs.
- D. Disk **Alignment** Cartridge or Program.
- E. Master **Alignment.Diskette**.
- F. '0.050 hex setscrew driver.
- G. Non-conductive common blade tuning wand.

CAUTIONS: Take extreme care when handling and storing the master alignment diskette.



The Disk Drive PWR ON lite should be ON and the BUSY lite should be OFF whenever you are inserting or **removing** a diskette from the unit. DO NOT open the Drive door or turn Drive power off when the BUSY lite is on.

1. Connect the Drive to the Computer Console.
2. Turn the Drive on and wait for the BUSY **lite** to go off. Insert the master alignment diskette.
3. Either insert the disk **alignment** cartridge or load the disk alignment program into the Console.
4. Via the Console, command the Drive to read track -16.
5. Set the oscilloscope controls as follows:
DISPLAY: A + B, B inverted
TIME/DIV: 20 msec./DIV
VOLTS/DIV: 20 mv/DIV
6. Compensate your scope probes.
7. Connect a ground probe from the scope to the faston lug ground at the rear of the transport.
8. Attach the channel A probe to the rear lead of CR154.



9. Attach the channel B probe to the rear lead of C155.

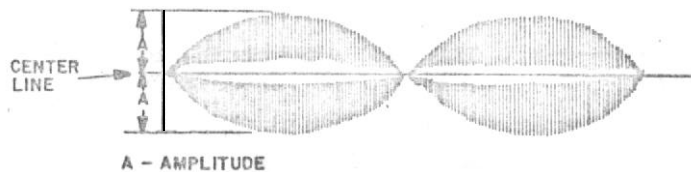
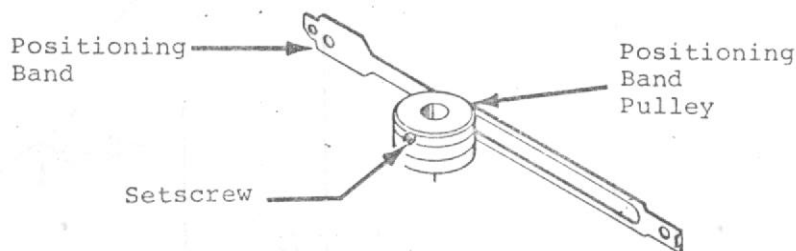


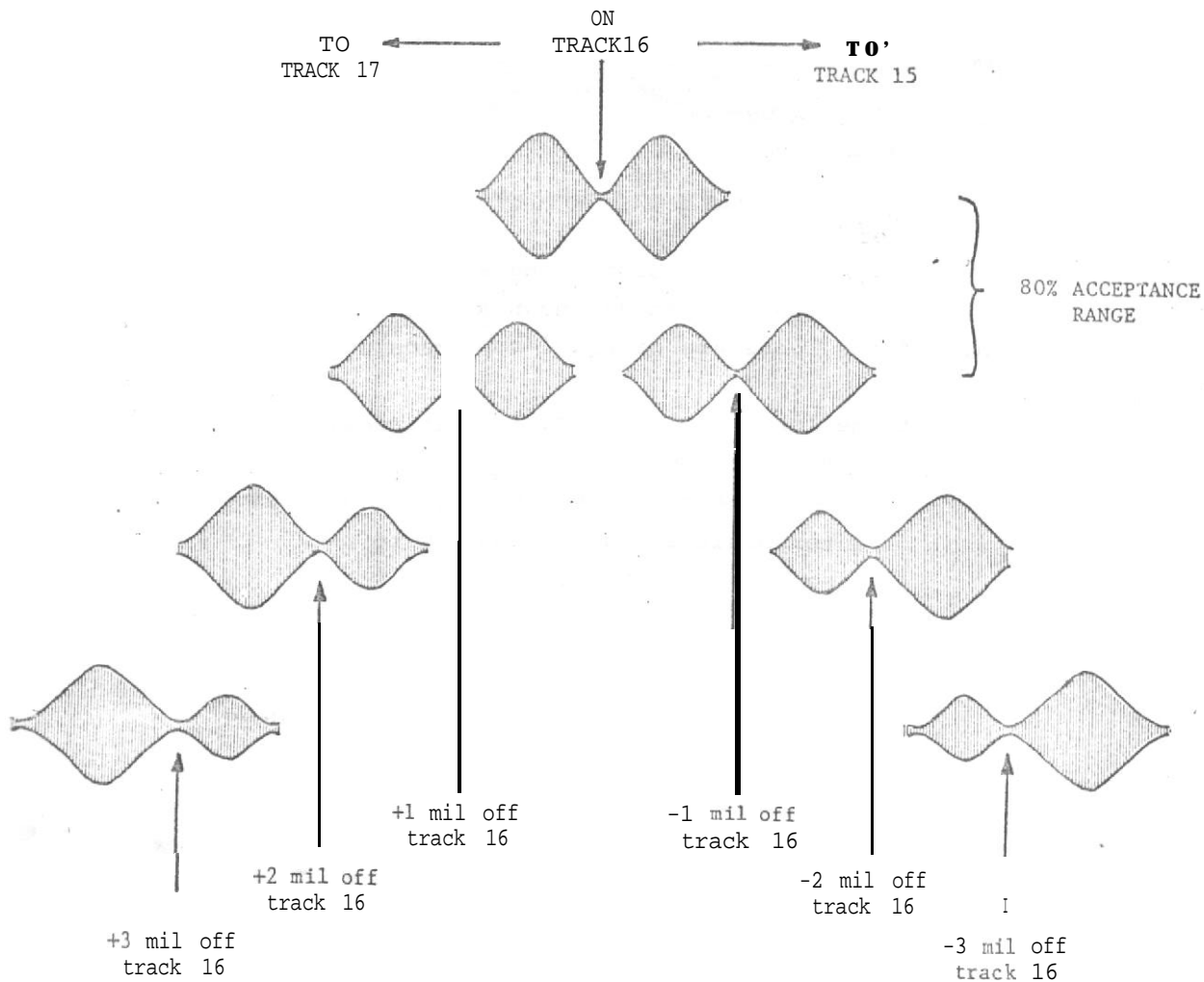
FIG A
CAT'S-EYE PATTERN

10. The 'scope should be displaying a repeating cat's-eye lobe pattern as shown above.
 - a. If the lobes are of equal amplitude, go on to step 11.
 - b. If the lobes are of unequal amplitudes, proceed as follows:
 1. Locate the setscrew securing the stepper motor positioning band pulley to the stepper motor shaft.



2. With the **Drive** still reading track 16, back the setscrew out (counterclockwise) of the pulley about 1/4 turn. **Leave the setscrew driver in the pulley.**
3. Slightly rotate the pulley either clockwise or counterclockwise until the 'scope shows equal amplitude. cat's-eye lobes.
4. Tighten the setscrew and remove the setscrew driver.
5. Verify that the lobes are still within 80% amplitude of each other. If they are not, return to step 2.

6. Via the Console, command the Drive to step back to track 00 and return to read track 16.



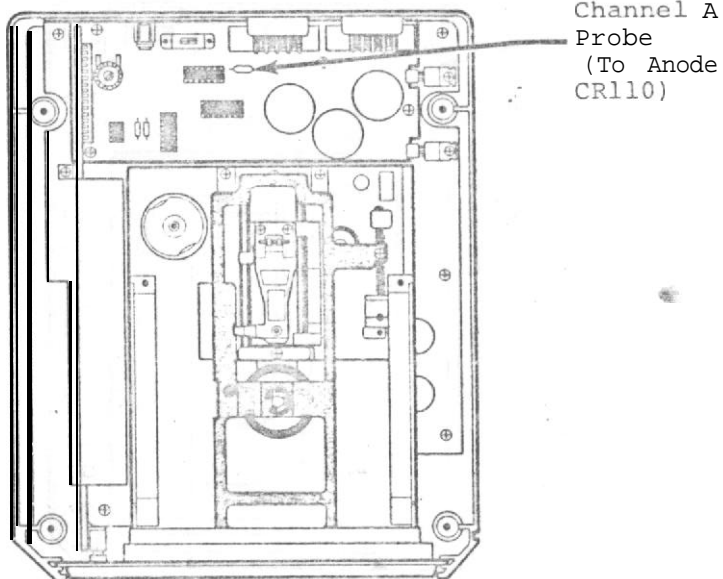
"Cat's Eyes" **DISPLAY AS A FUNCTION OF**
READ HEAD to TRACK 16 POSITION

7. Verify that the lobes are still within 80% amplitude of each other. If they are not, return to step 2.
8. Via the Console, command the Drive to step out to track 32 and return to read track 16.

9. Verify that the lubes are still within 80% amplitude of each other. If they are not, return to step 2.

NOTE: Steps G thru 3 check the hysteresis within the head positioning system. If you are unable to achieve the results indicated, suspect: 1) a broken or damaged setscrew; 2) a binding and misaligned positioning band; 3) binding of head assembly to guiderails; or 4) a bad stepper motor.

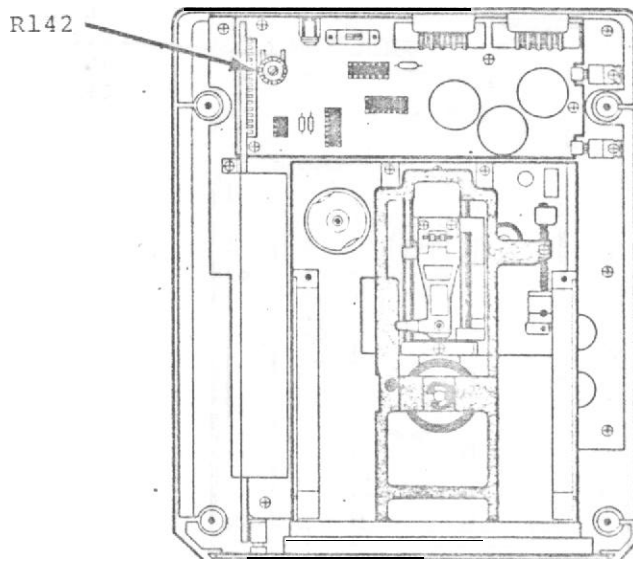
11. Disconnect the 'scope probes (except for the ground lead) from the drive circuit.
12. Reset the 'scope DISPLAY to channel A only.
13. Attach the A channel probe to ANODE side of CR110 (tachometer output).



14. Command the Drive to read any track.
15. Refer to the following guide for correct tachometer frequencies. If the tested frequency is not correct, adjust R142.

SPEED ADJUSTMENT GUIDE

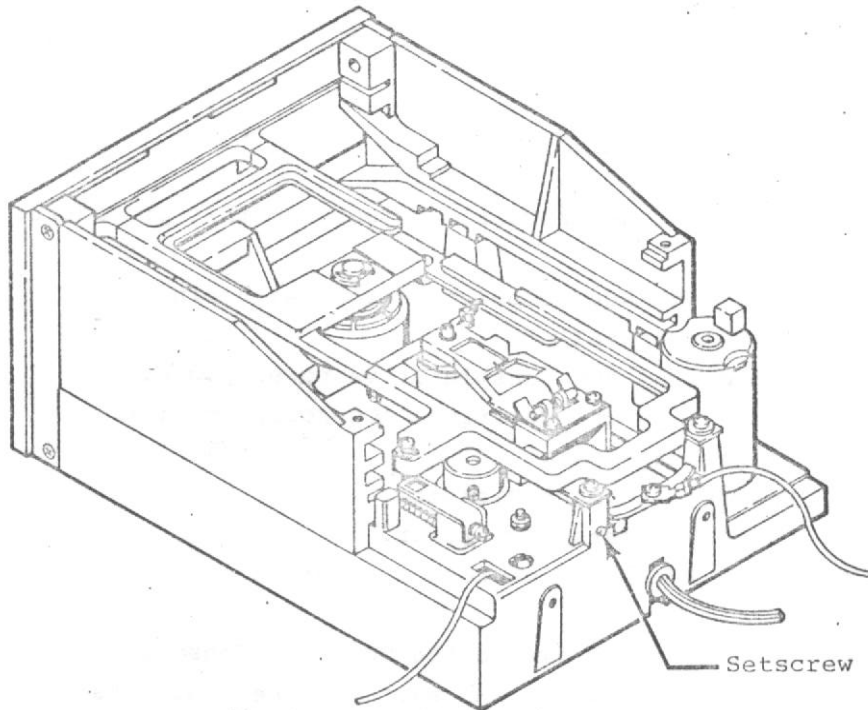
DRIVE BELT	DRIVE MOTOR PULLEY DIAM.	TACH FREQ.	1 CYCLE = APPROX	DRIVE MTR. PART NUMBER
Mylar (yellow)	.250"	390 Hz	2.564 msec	3-35003-002
Mylar (yellow)	.300"	320 Hz	3.125 msec	3-35003-001
Neoprene (black)	.300"	305 Hz	3.279 msec	3-35003-001



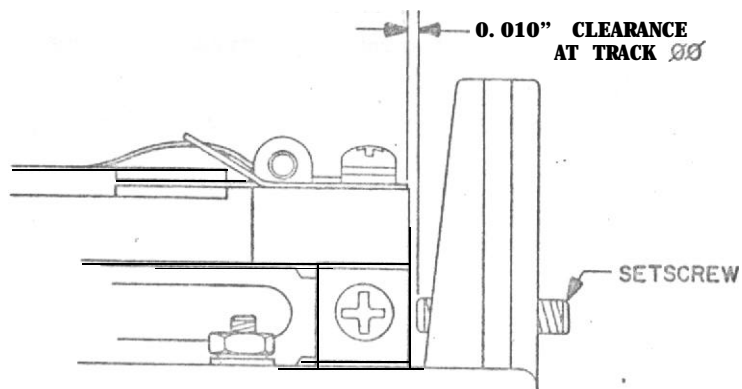
TRACK 00 STOP ADJUSTMENT

The following are required to perform this procedure:

- A. Atari 400/800 Computer Console with minimum 16K RAM installed.
 - B. I/O cables and Console/Drive power packs.
 - C. Disk Alignment Cartridge (Console) or Disk Alignment Program.
 - D. Master Alignment Diskette.
 - E. 0.050 hex setscrew driver.
 - F. 0.010 inch flat or round feeler gage.
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- 1. Connect the Drive to the Computer Console.
 - 2. Turn the Drive on and wait for the BUSY lite to go Off. Insert the master alignment diskette.
 - 3. Either insert the disk alignment cartridge or load the disk alignment program into the Console.
 - 4. Via the console, command the Drive to read track 00.



5. Locate the track 00 stop setscrew at the 'rear of the Drive transport.



6. Check and adjust as needed for a 0.010 inch clearance between the setscrew and the rear corner of the head carriage plastic molding.
7. Command the Drive to step out to any track above 30, and then return to track 00.
- a. Verify that upon returning to and reading track 00, the carriage does not butt against the setscrew.

DRIVE BELT ADJUSTMENT

Drive belt adjustments are completed with NO power applied to the unit.

The transport will have either the older (yellow) mylar drive belt or the newer (black) neoprene drive belt. Proper adjustment of the mylar belt requires the use of a tensiometer or suitable substitute capable of measuring 17 ± 1 g-rams.

MYLAR (YELLOW) DRIVE BELT

1. Loosen but do not remove the two screws securing the drive motor to the transport casting.

