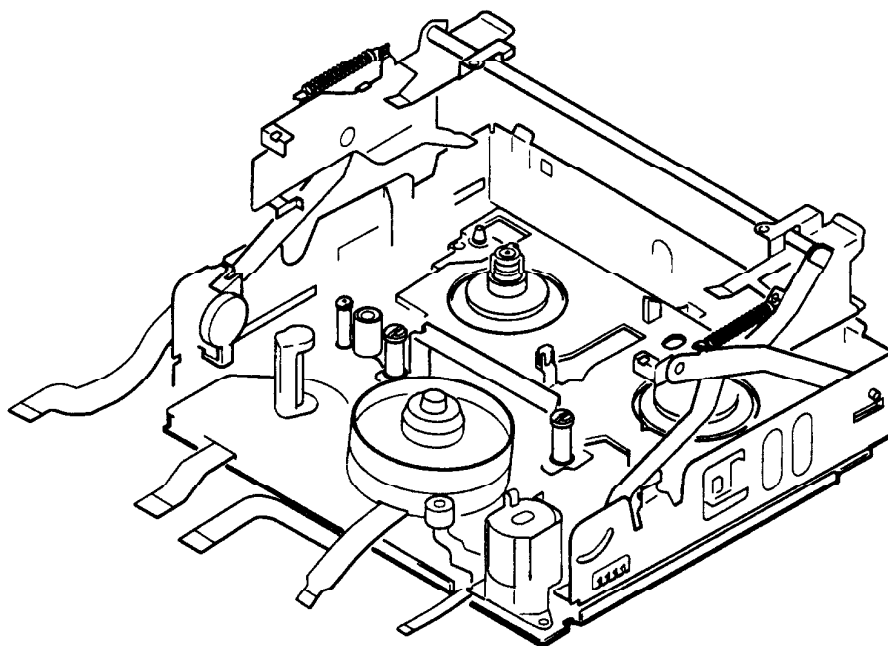


Video8

B-mechanism know-how



8 MECHANISM DECK

SONY®

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Table of B-mechanism know-how

	Trouble	Symptom	Cause	Remedy	Page
1	Tape not wound. (Deformation of gooseneck retainer.)	T-reel is pressed by deformation of gooseneck retainer.	Gooseneck retainer was deformed due to change in environment.	Replace with new part. Former part 3-965-584-01 ↓ New part Gooseneck retainer (2) 3-989-479-01	P.12 - P.15
2	Tape not wound. (Inclination of TG4)	TG4 arm was inclined, causing loading/unloading failure tape jamming, etc.	TG4 arm was inclined when user removed jammed tape and it was caught in TG4.	Replace with TG4 arm made of high-strength material (SUS). TG4 arm ass'y A-7040-417-A	P.16, P17
3	No eject. (Trouble with M slider at unloading.)	The edge at the end of M slider is caught in the caulked guide arm S.	The face "c" of the edge at the end of M slider is small.	Replace M slider. • Repair M slider.	P.18
4	Video recording guide tape not wound.	Tape is not wound in FWD mode. (This trouble occurs in video recording guide tape.)	<ul style="list-style-type: none"> • Flatness of video recording guide tape cassette is NG. • The height of reel is low at cassette DOWN. 	<ul style="list-style-type: none"> • Video recording guide tape is defective. • Replace video recording guide tape. (Improved tape is available from our stock.) • Check to see if the chassis is deformed or T reel shaft is tilted. 	P.19
5	Trouble with guide base S at unloading.	The V-shaped guide base is caught in the corner of drum base at unloading.	Insufficient margin.	<ul style="list-style-type: none"> • Replace guide base S ass'y. • Replace drum base ass'y. • Repair the corner of drum base. • Change the V-shaped guide base to straight type. 	P.20
6	Trouble with M slider at loading.	The corner of M slider is caught in the hole of LS chassis at loading.	Inclination of M slider due to MD frame dab getting on the slider.	Replace M slider ass'y. • Change the shape of the corner of M slider.	P.21
7	No unloading. (Trouble with T ratchet)	T ratchet pin rides over M slider and is not reset, causing failure in operation of T latch and generating unusual noise.	T ratchet was tilted and pin was loosened due to clearance between T ratchet shaft and the hole of LS chassis.	Replace with new part. (T ratchet) Former part 3-965-581-01 ↓ New part 3-965-581-03	P.22
8	Tape not wound. (Tape slack, T reel caution)	Tape is not wound on T reel, causing caution and tape jamming.	<ul style="list-style-type: none"> • Gooseneck retainer interferes with T reel base due to deformation of gooseneck retainer. • Increase in loss torque of T reel base and reel shaft. • Insufficient margin of T reel height. 	Introduction of gooseneck retainer (2) (Prevention of interference with T reel.) (Improved gooseneck retainer) Hole diameter on T reel side has been made larger. Gooseneck retainer (2) 3-989-479-01	P.24, P25
9	Threading is not completed.	The tip of guide base T touches the entrance corner of V-shaped drum base, and threading is not completed.	Drum base touches guide base T.	Replace drum base ass'y.	P.26

Problem No.	Troubleshooting	Causes	Countermeasures	Remarks	Detail Page No.
10	Trouble with guide base S at loading.	The tip of guide base is caught in the rib of drum base at loading, causing loading failure.	Insufficient margin.	<ul style="list-style-type: none"> • Replace guide base S ass'y. • Replace drum base ass'y. • Change the shape of tip of guide base. • Use additional drum base rib. 	P.27
11	No loading (Tape guide not moving out)	Stopper is not released and guide does not move out at loading.	Insufficient amount of stopper release. (Small design margin)	Replace drum base ass'y. <ul style="list-style-type: none"> • Change the size of stopper release unit of drum base to increase the amount of release. 	P.28
12	Tape not wound. (Separation of LS guide roller)	Tape is not wound due to failure of loading/unloading operation or floating of cassette by separation of LS guide roller.	The size of the step of inside diameter of LS guide roller is not correct.	Replace LS guide roller. (New part is available from our stock.) <ul style="list-style-type: none"> • Repair LS guide roller. (NOTE) Do not use the dismantled roller 	P.29
13	Trouble with EJ arm.	C-IN (C.C. LOCK) SW is ON at all times due to deformation of EJ arm spring.	—————	Replace EJ arm. <ul style="list-style-type: none"> • Change the shape of EJ arm. (Cut the boss being caught in LS chassis.) 	P.30
14	Tape is not set in position and cannot be loaded. (Trouble with pinch arm)	The tip of pinch arm gets over the wall of guide base and is not operating.	Insufficient margin of pinch arm and the height of guide base wall.	Replace with improved part. Former part A-7040-418-A ↓ New part A-7040-418-B	P.31
15	T soft brake not working, trouble with loading/unloading. (Damage to T soft pawl)	The shaft at tip of T soft claw was caught in the bent portion of M slider and the pawl was damaged.	Insufficient margin for variations of bending position of M slider.	Replace M slider. <ul style="list-style-type: none"> • Correct the bending position of M slider. 	P.32
16	Trouble with M slider at loading. (Small torque of T soft brake)	The tip of T soft claw interferes with the corner outside M slider.	Insufficient margin of T soft claw and the height of M slider.	Replace M slider. <ul style="list-style-type: none"> • Repair the shape of M slider. 	P.33
17	"No cassette" displayed at cassette IN.	C-IN (C.C. LOCK) SW is sometime OFF during operation due to stress.	SW ON point specification differs from MD standards.	Replace part 1-572-680-11	P.34
18	Damage to tape due to slack in T side tape. (Separation of T soft gear spring)	Spring was separated in the market due to improper fit of spring hook.	Spring hook on LS chassis is in the shape of causing improper fit.	Mount the spring hook correctly. <ul style="list-style-type: none"> • Use spring push-in jig. • Change the shape of spring hook on LS chassis to prevent improper fit. 	P.36, P.37
19	Tape not ejected. (Capstan motor not rotating)	Damage to driver due to over-current.	Damage due to over-current.	Replace capstan motor.	P.38

Code	Trouble	Symptoms	Cause	Remedy	Detail description
20	Swinging of camera picture	Camera picture swings during drum rotation. * This can be easily checked in ZOOM mode.	Shaft earth vibration interferes with the oscillation frequency of angular velocity sensor, causing failure in operation of steady shot prevention.	<ul style="list-style-type: none"> Apply grease on shaft earth contact. Replace shaft earth with improved part. Former part 3-965-525-01 ↓ Now part 3-065-525-03 	P.39
21	Separation of reel table magnet. (Caution)	Pressure of reel table magnet seat is insufficient, causing separation of the magnet and resulting in caution.	Insufficient pressure by jig.	Replace reel table. <ul style="list-style-type: none"> Reel table in our stock has no problems. 	P.40
22	Gooseneck gear not working.	Gooseneck gear is caught between LS chassis and gooseneck retainer, causing failure in operation of gooseneck gear.	Insufficient margin of the thickness of gooseneck gear for the warp of gooseneck retainer and the clearance between LS chassis and gooseneck retainer.	Replace gooseneck gear ass'y. <ul style="list-style-type: none"> Change the thickness of gooseneck gear from 1.95 to 1.80. 	P.41
23	Separation of capstan motor flexible cable.	Capstan motor flexible cable is floating and touches rotor, causing unusual noise and incorrect rotation (jitter, no tape winding, etc.).	Decrease in adhesive force of flexible cable due to contamination of capstan stator with oil.	Rubber spacer Part Code 3-987-953-02 <ul style="list-style-type: none"> Clean with alcohol. Attach rubber spacer to capstan motor to prevent it from floating. 	P.42
24	Tape wrinkle, tape damage. (Trouble with capstan motor flexible cable)	Flexible cable fitted between its holder and capstan stator comes off the position, causing change in capstan azimuth and tape jamming due to damage to capstan shaft.	The folded portion of capstan motor is caught at the time of assembling flexible cable retainer.	<ul style="list-style-type: none"> Repair to prevent flexible cable from being caught. Change the shape of the holder of flexible cable to eliminate overlap of flexible cable retainer and capstan motor flexible cable. 	P.43
25	Failure in loading/unloading operation due to inclination of LS arm.	LS arm pin is bent due to dropping.	Strength of the root of pin is insufficient for dropping.	Replace with part. 3-965-532-21	P.44
26	V sync failure	Entrance contact of head projection is small, causing V sync failure.	Amount of head projection is small.	Replace drum ass'y. <ul style="list-style-type: none"> Change the amount of head projection. 	P.45
27	Noise in LP playback picture	Small output from one CH due to difference in output from CH1/CH2.	Clearance between drum shaft and bearing is large, causing the bearing to be out of position. (Difference in height of CH1/CH2 head)	Replace drum ass'y. <ul style="list-style-type: none"> Change shaft and bearing, from insertion type to press-in type. 	P.46
28	Damage to FP249 flexible cable	FP249 flexible cable is damaged, causing tape caution and failure of cassette IN SW ON.	Flexible cable was damaged by lock plate due to overstroke when cassette compartment is locked.	<ul style="list-style-type: none"> Increase the adhesive strength of flexible cable. * Prevention of corner from floating. Change the arrangement of flexible cable pattern. (Keep lock plate away from pattern) Change the shape of tip of lock plate. Replace LS chassis (S1) ass'y. A7040-427-A Replace cassette compartment ass'y. X-3945-400-1 	P.47

Index No.	Trouble	Symptom	Causes	Remedy	Level Code
36	Reel caution.	Reel is rotating but reel rotation cannot be detected due to caution.	Reel sensor is defective.	Replace LS chassis (S1) ass'y.	—
37	Tape is caught at loading.	Burrs on the side of drum base stopper release interferes with the stopper, causing loading failure and unusual noise.	—	Replace drum base ass'y. • Change the width of stopper release.	—
38	Caution (Failure of reset of reel table claw.)	Reel pawl is not reset at the time of cassette DOWN, causing damage to the reel due to idle rotation.	The size of reel table dowel is NG.	Replace reel table. • Repair reel base dowel.	—
39	Damper is separated.	Damper gets off the position, causing cassette compartment to move up quickly. Entry of foreign objects in the damper has also caused incorrect operation.	<ul style="list-style-type: none"> ● Pawl was not hooked correctly at the time of mounting the damper. ● Damper is pressed and separated when cassette compartment lid is mounted. 	Mount the damper correctly.	—

1

Tape not wound (Deformation of gooseneck retainer)-1

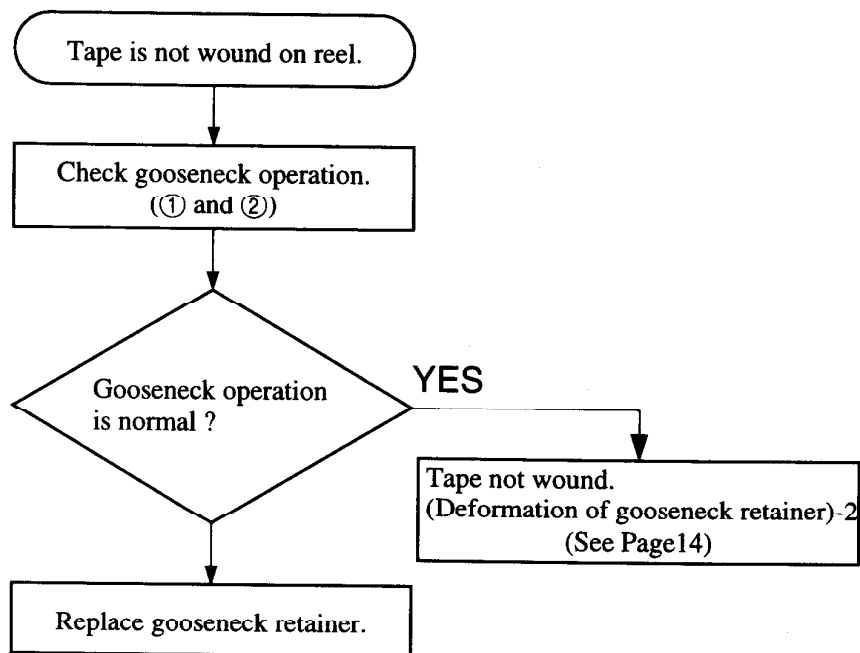
(Symptom)

A. Gooseneck gear ass'y is not operating due to deformation of gooseneck retainer. Tape is not wound on reel table.

(Cause)

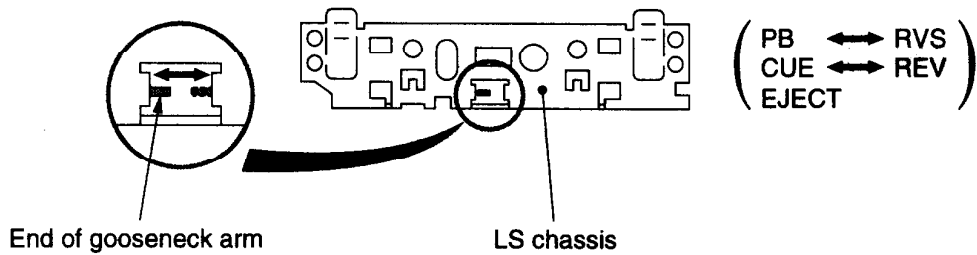
Gooseneck gear ass'y touches the gooseneck retainer due to warp of the retainer, so gooseneck gear does not operate properly and is not meshed with the gear of reel table.

(Remedy)



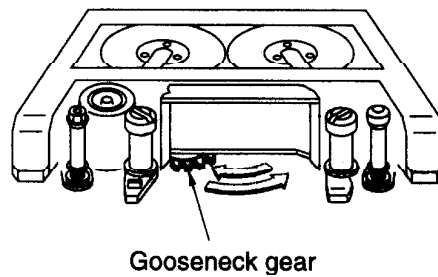
Mounting screw No.2 3-976-055-01
Gooseneck retainer (2) 3-989-479-01

- ① When LS is completed, check the operation of gooseneck gear ass'y from the hole at front of LS chassis.



- When the end of gooseneck arm is at extreme left, it is meshed with T reel table.
- When the end of gooseneck arm is at extreme right, it is meshed with S reel table.

- ② Check the operation of gooseneck gear ass'y at the time of cassette IN.



- Gooseneck gear moves momentarily toward T reel table at cassette IN to wind tape.
- Then, gooseneck gear moves toward S reel table to start loading.
(Gooseneck gear stops moving before it reaches S reel table)

1

Tape not wound (Deformation of gooseneck retainer)-2

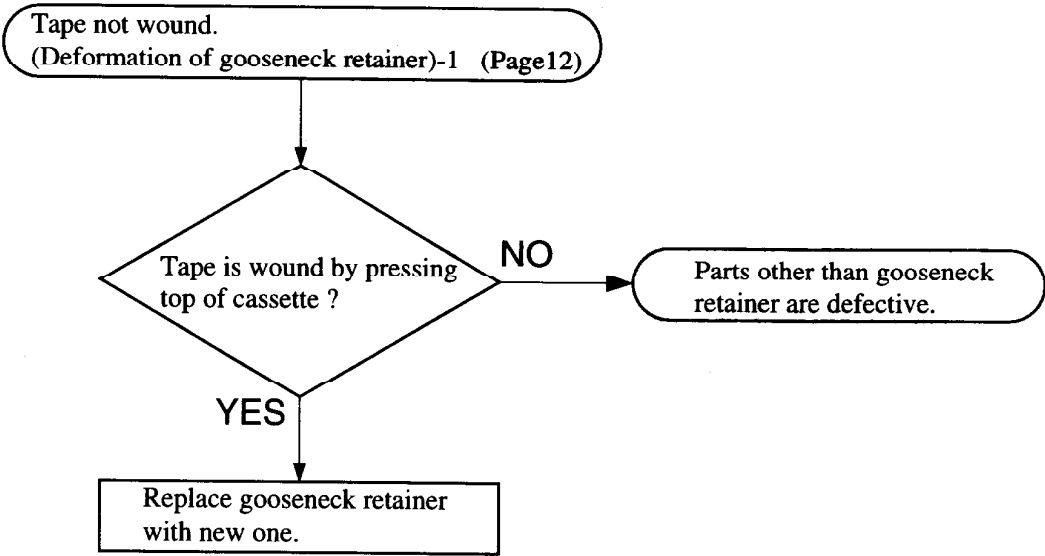
(Symptom)

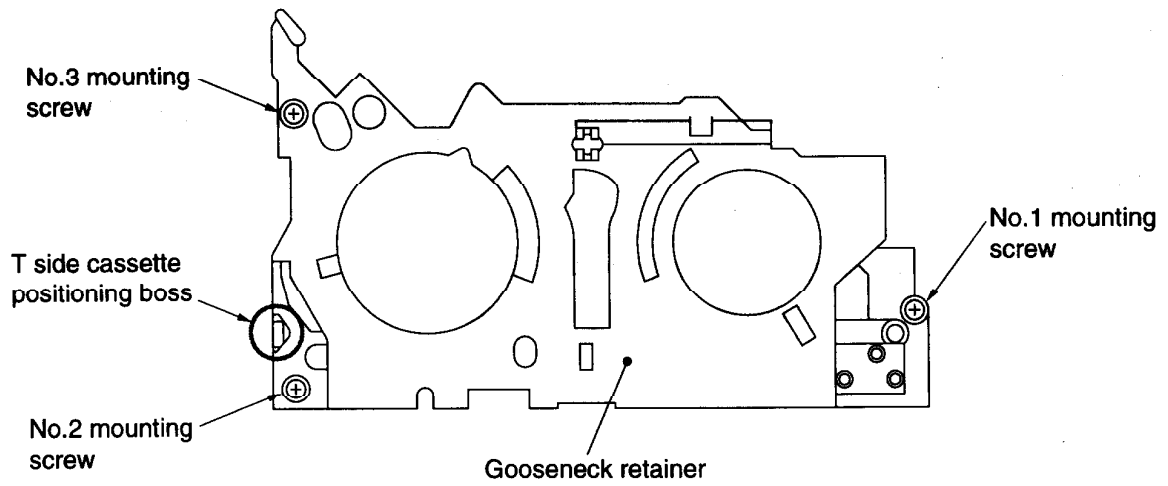
B. Gooseneck retainer is warped or deformed. Cassette is not set in place and tape is not wound on reel.


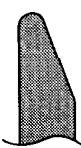
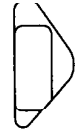
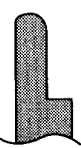
(Cause)

Gooseneck retainer is warped (center top) or deformed (inclination of T side cassette positioning boss (see diagram at page15)), so cassette is not set in place. Reel hub in cassette touches cassette shell and tape is not wound on reel.

(Repair procedure)





	Former parts		New parts
Part No.	3-965-584-01	➔	3-965-584-08
Shape of T side cassette positioning boss	 		 
No.2 mounting screw	3-947-503-01 M1.4 x 2.5	➔	3-976-055-04 Shoulder screw, M1.4 x 1

2**Tape not wound (Inclination of TG4)**0000000 E.014
W0102**(Symptom)**

TG4 is bent, causing tape jamming (irregular tape travel) and loading/unloading failure (TG4 shaft is inclined from the groove of mechanism chassis).

(Cause)

1. Cassette of jamming tape was removed forcibly when the tape was caught in TG4.
2. The set was dropped off during unloading operation, and TG4 was separated from the groove of mechanism chassis.
3. LS chassis was pushed forcibly at the time of tape top processing.

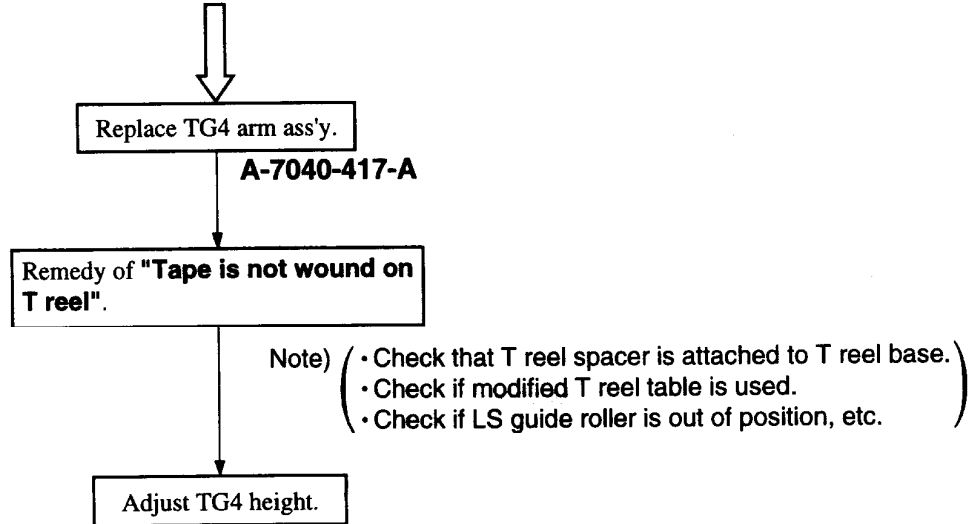
(Remedy)

Change the material of TG4 arm.

(Repair procedure)

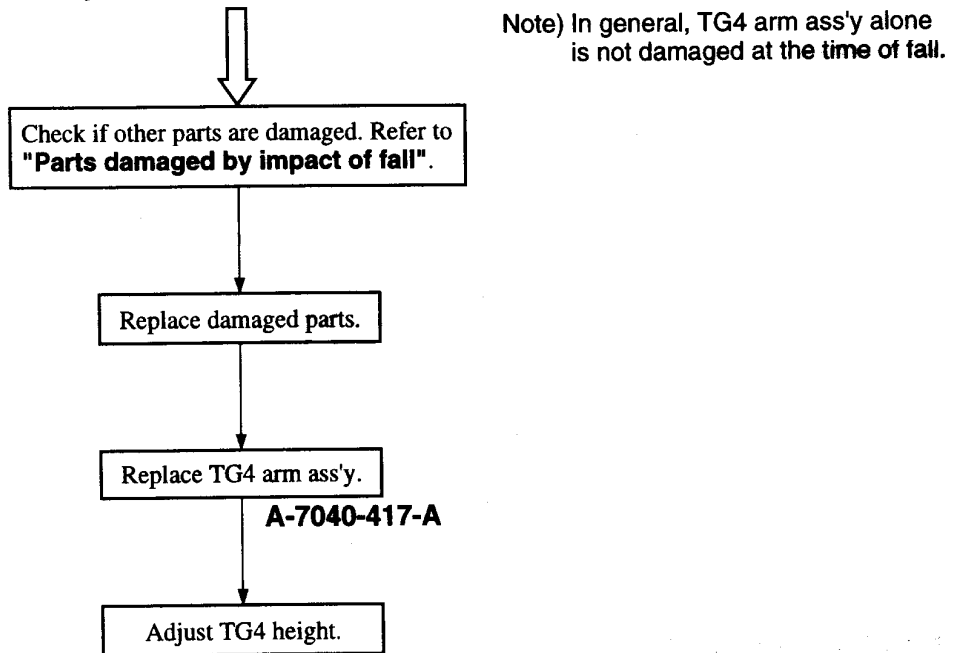
A. Tape is not wound correctly, causing deformation when removing tape.

**Tape is not wound correctly and cannot be removed.
Tape is entangled at TG4. TG4 arm ass'y is deformed
by the force of pulling tape.**



B. Deformation due to impact of fall.

TG4 arm ass'y is deformed by impact of fall.

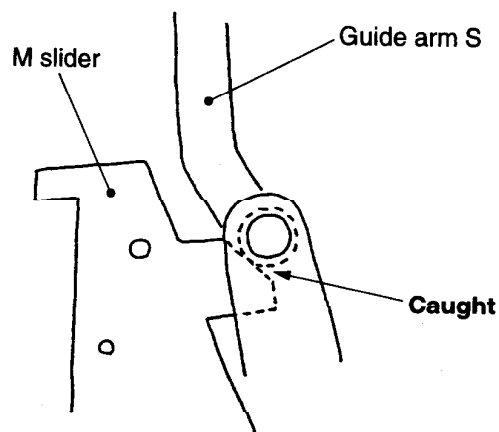


3**No eject (Trouble with M slider at unloading)****(Symptom)**

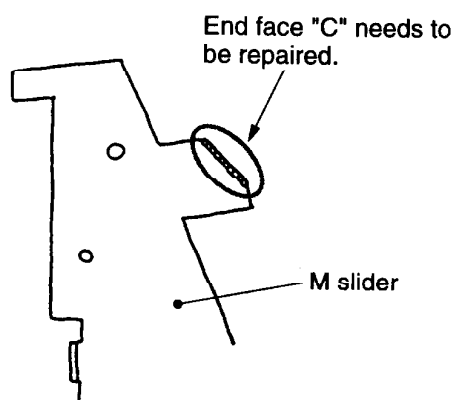
The caulked portion of guide arm S is caught in the edge on the end face of M slider, causing unloading failure.

(Cause)

The end face "C" of M slider is small and the caulked portion of guide arm S was caught in the end face.

**(Remedy)**

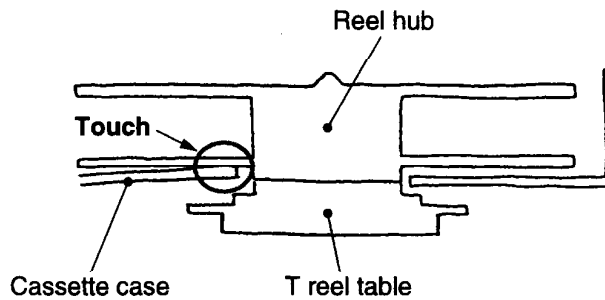
Repair M slider end face "C".

**(Repair procedure)**

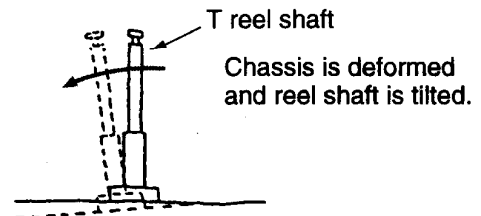
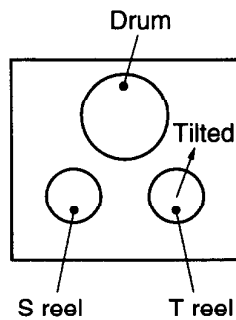
Replace M slider.

4**Video recording guide tape cassette not winding properly.****(Symptom)**

Reel hub touches the bottom of the case of video recording guide tape cassette, and tape cannot be wound due to failure of reel rotation.

**(Cause)**

1. Flatness of video recording guide tape cassette is NG.
2. The height of T reel is low due to deformation of chassis at cassette compartment DOWN with the spring force of cassette compartment, causing a fall of T reel shaft.

**(Remedy)**

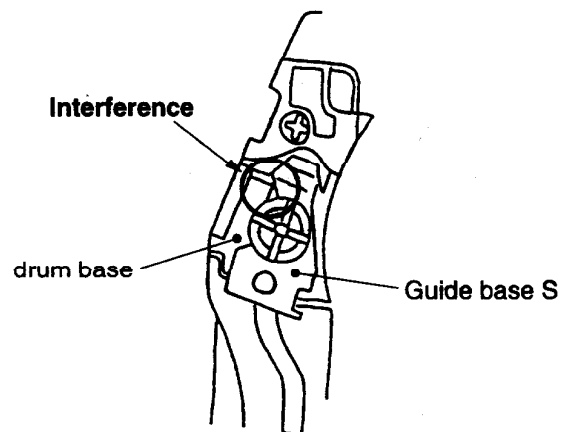
1. Change the verticality tolerance of T reel shaft.
2. Correct the flatness of video recording guide tape cassette.
3. Change the height of T reel (spacer can be used temporarily).

(Repair procedure)

- Replace video recording guide tape cassette.
- Check T reel shaft for bending.

(Symptom)

The corner of drum base groove is caught in the V-shaped guide base S at unloading, causing unloading failure.

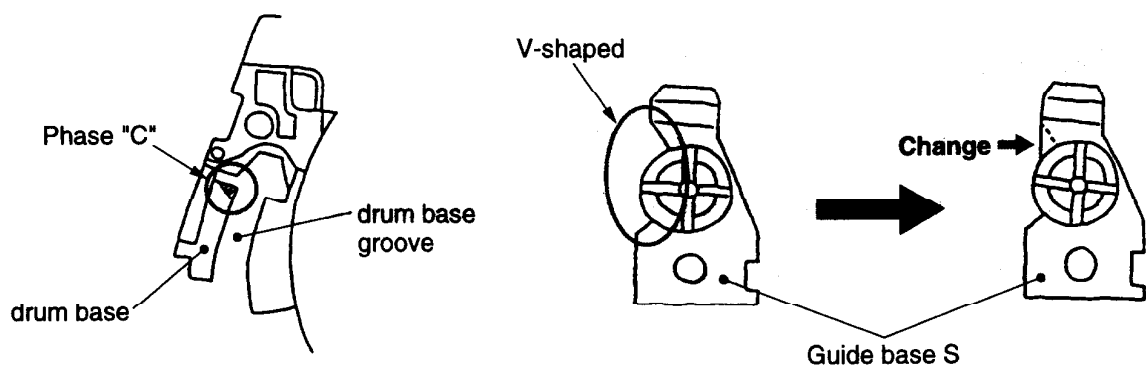


(Cause)

Interference due to variations of the corner of drum base groove and the shape of edge of guide base S (insufficient margin).

(Remedy)

1. Repair the corner "C" at entrance of drum base groove.
2. Change the V-shaped side of drum base to straight type.



(Repair procedure)

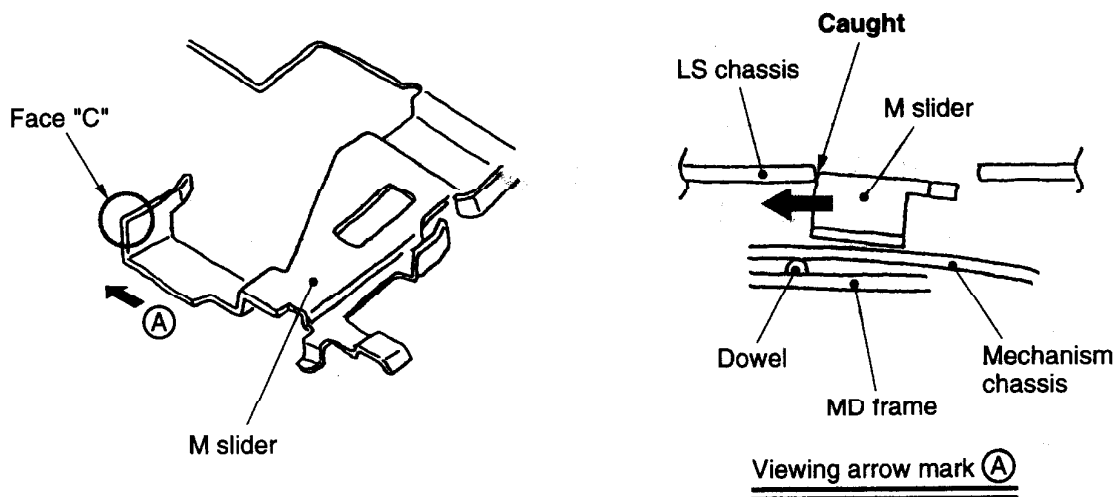
- Replace guide base S ass'y.
- Replace drum base ass'y.

(Symptom)

The corner of M slider is caught in the hole of LS chassis, causing deformation of M slider and loading failure.

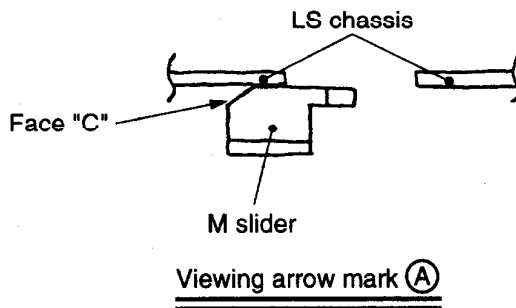
(Cause)

MD frame was mounted when the dowel was floating. The posture of M slider was changed due to warp of mechanism chassis, and the corner of M slider entered the hole of LS chassis.



(Remedy)

Repair the corner "C face" of M slider to prevent it from being caught.



(Repair procedure)

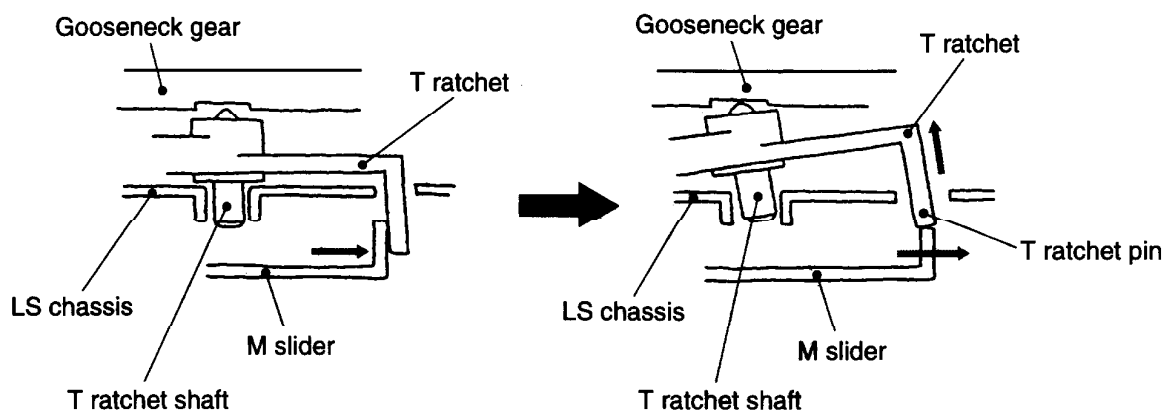
Replace M slider ass'y.

7**No unloading (T ratchet pin riding over M slider)****(Symptom)**

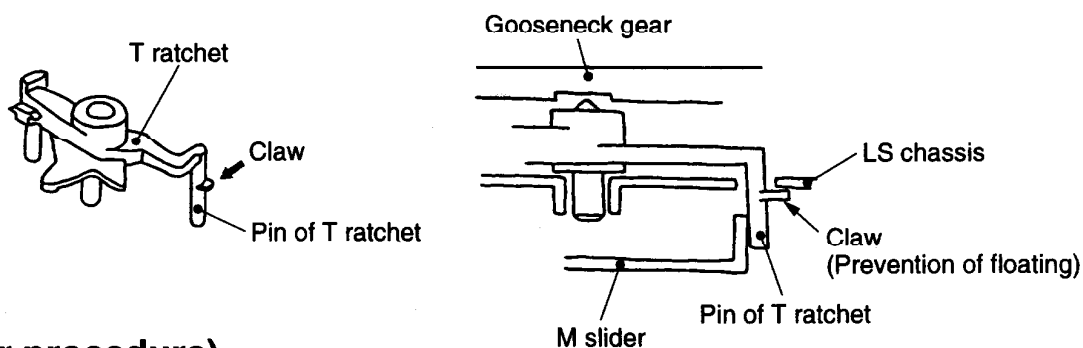
T ratchet pin rides over M slider and is caught at loading/unloading, causing failure of resetting T ratchet.

(Cause)

T ratchet shaft is loosened in the hole of LS chassis, and M slider is pushed to M slider at change of mode, so T ratchet is tilted. The pin rides over the wall of M slider and cannot be reset.

**(Remedy)**

1. Turn T reel with hand and check that it is meshed with reel table. (Factory check)
2. Pad the foot of T ratchet to prevent tilting.
3. Add a claw to the pin of T ratchet and hook on LS chassis to prevent T ratchet from floating.

**(Repair procedure)**

Replace T ratchet.

(Former)
3-965-581-01



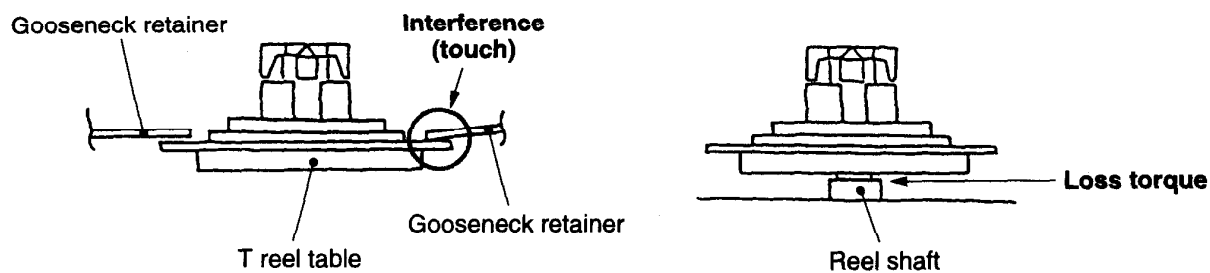
(New)
3-965-581-03

8**Tape not wound (Causing tape slack and T reel caution)****(Symptom)**

Tape is not wound on T reel at PB mode, causing tape slack and T reel caution.

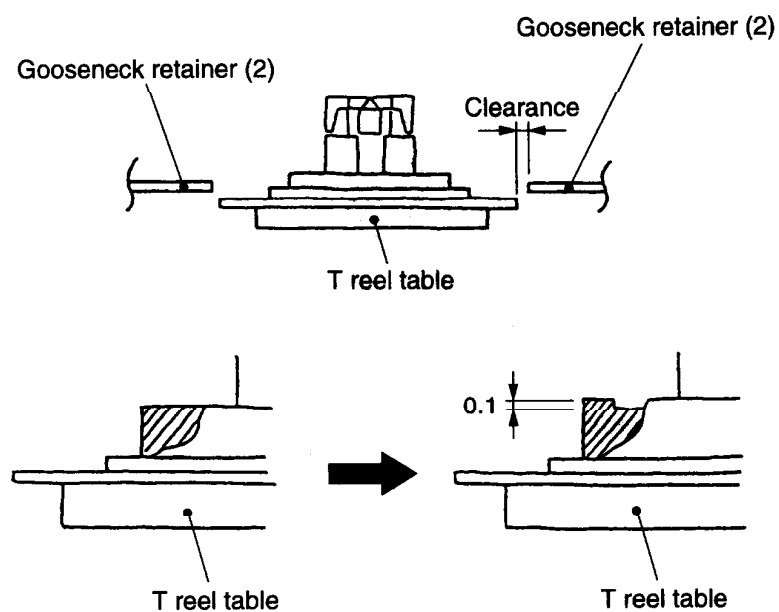
(Cause)

1. The outer surface of T reel touches gooseneck retainer due to deformation of gooseneck retainer (no clearance in the direction of height).
2. The margin of T reel height is insufficient (the height of reel table is low).
3. Loss torque between reel table and reel shaft is large, reducing FWD winding torque.



(Remedy)

1. Change the size of T reel hole for gooseneck retainer (prevention of interference).
Gooseneck retainer (2)
2. T reel table height +0.1 UP
3. Apply oil to reel shaft and change the material.
4. Check FWD winding torque.
Former type Without check and standards
After change FWD torque 4g·cm or more



(Repair procedure)

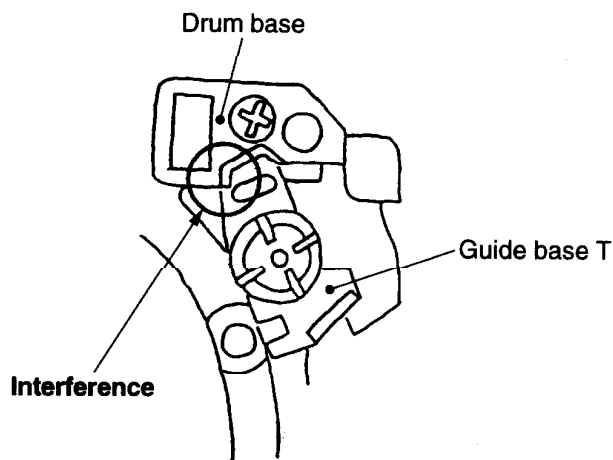
1. Move T reel up and down and check that it is not loosened (gooseneck retainer touches T reel table), and change gooseneck retainer with gooseneck retainer (2).
2. When winding torque is small (less than 4g·cm), apply oil to T reel shaft.
3. If it is not corrected by 1 and 2, replace T reel table.
4. If it is not corrected by 1-4, replace LS chassis (reel shaft may be tilted).

9**Threading not completed (Change V-shaped drum base)****(Symptom)**

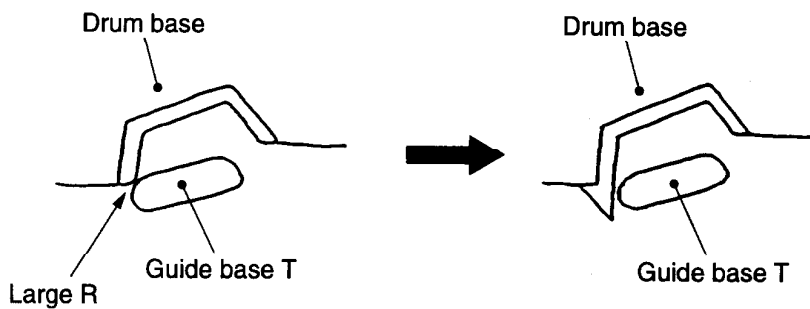
The drum base touches the guide base T at loading, causing failure of tape threading.

(Cause)

The drum base touches the guide base T at the position marked "O".

**(Remedy)**

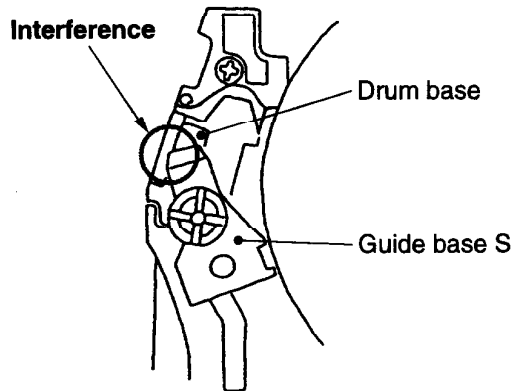
Extend the V-shaped portion at the corner of V-shaped drum base.

**(Repair procedure)**

Replace drum base ass'y.

(Symptom)

Tip of guide base S is caught in the triangle rib at the entrance of drum base, causing loading failure.



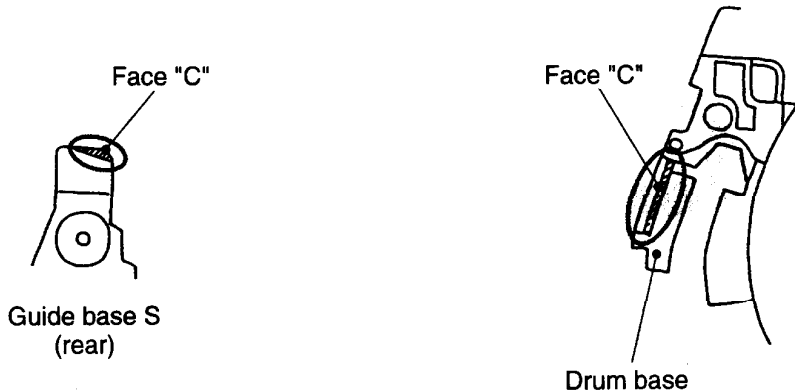
(Cause)

Tip of guide base S caused interference due to variations of position and thickness of drum base rib (insufficient margin).

(Remedy)

1. Add face "C" to the tip of guide base S.

Add face "C" to the entrance triangle rib of drum base.



(Repair procedure)

- Replace guide base S ass'y.
- Replace drum base ass'y.

(Symptom)

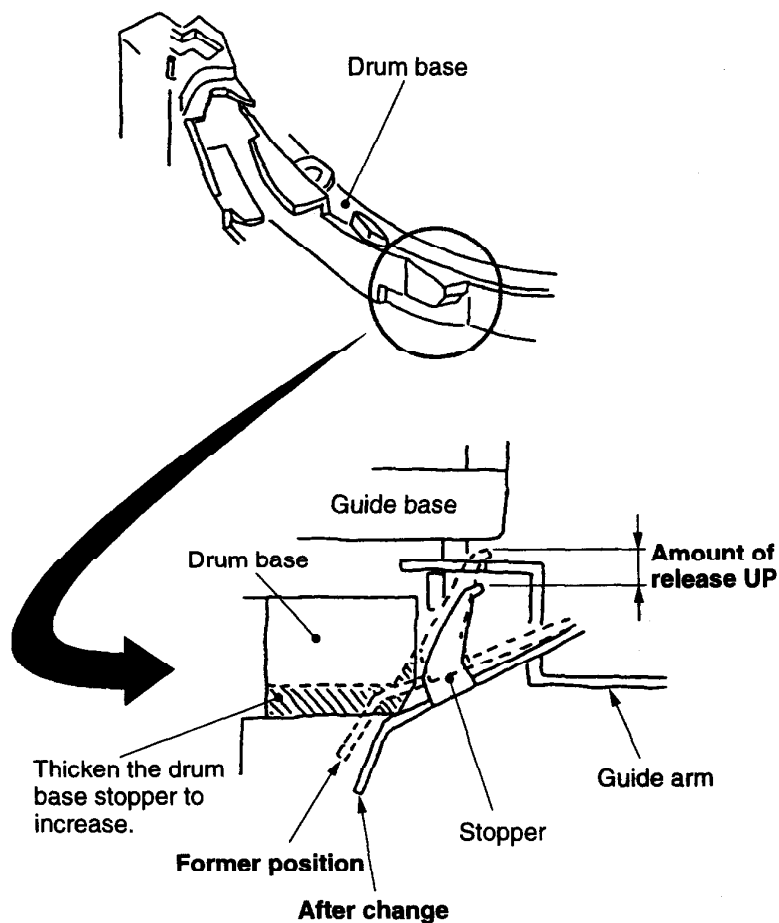
Stopper is not released at guide load, causing loading failure.

(Cause)

Drum base stopper opens at its release position, causing insufficient margin of releasing the claw from the hook of guide arm.

(Remedy)

Thicken the drum base stopper to increase the amount of releasing the stopper.



(Repair procedure)

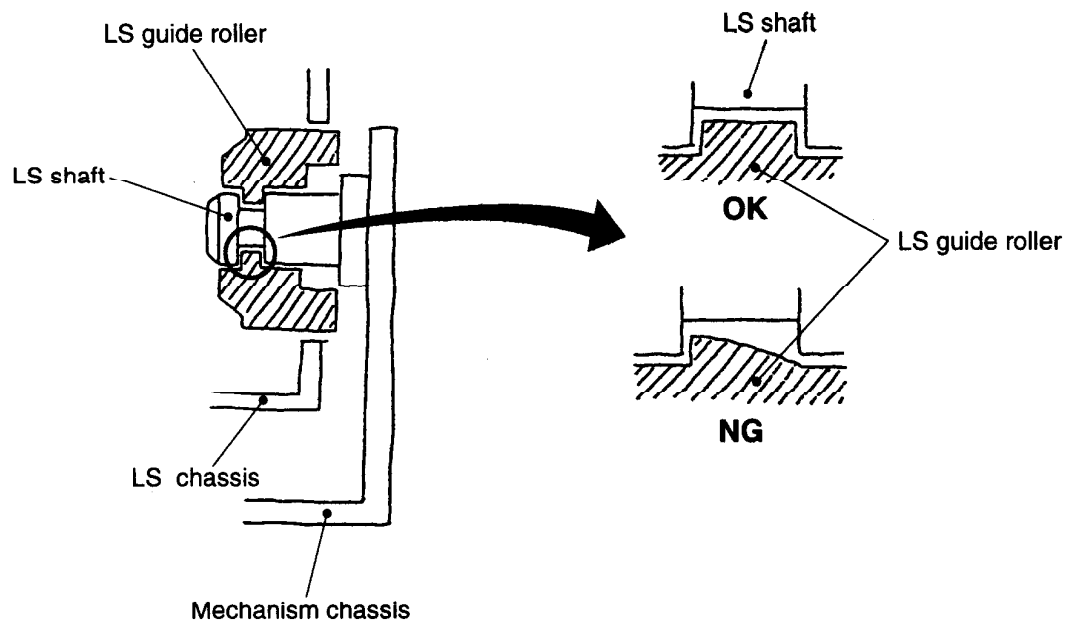
Replace drum base ass'y.

(Symptom)

LS guide roller is separated, causing loading /unloading failure. Tape is not wound on reel (cassette gets out of position).

(Cause)

Releasing force of LS guide roller is small due to improper shape of claw that is caught in the groove of LS shaft.

**(Remedy)**

Correct the shape of LS guide roller.

(Repair procedure)

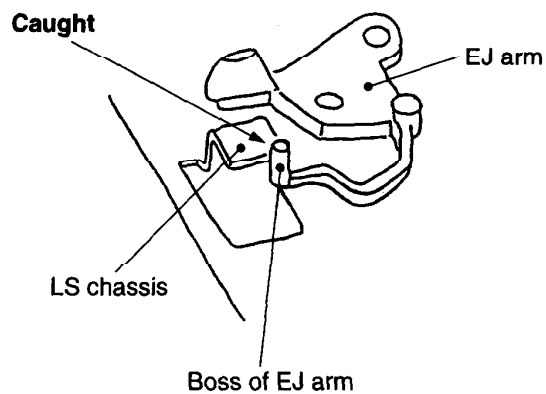
- Replace LS guide roller.
- Do not use the dismantled roller.

(Symptom)

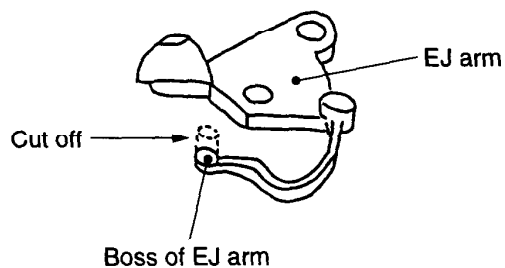
C-IN (C.C. LOCK) SW is always ON and tape is loaded in the state of cassette compartment UP.

(Cause)

EJ arm is deformed at the time of assembling and the boss on the spring is caught in LS chassis, and SW is kept pressed.

**(Remedy)**

Cut off the boss that is caught in LS chassis of EJ arm.

**(Repair procedure)**

Replace EJ arm.

14

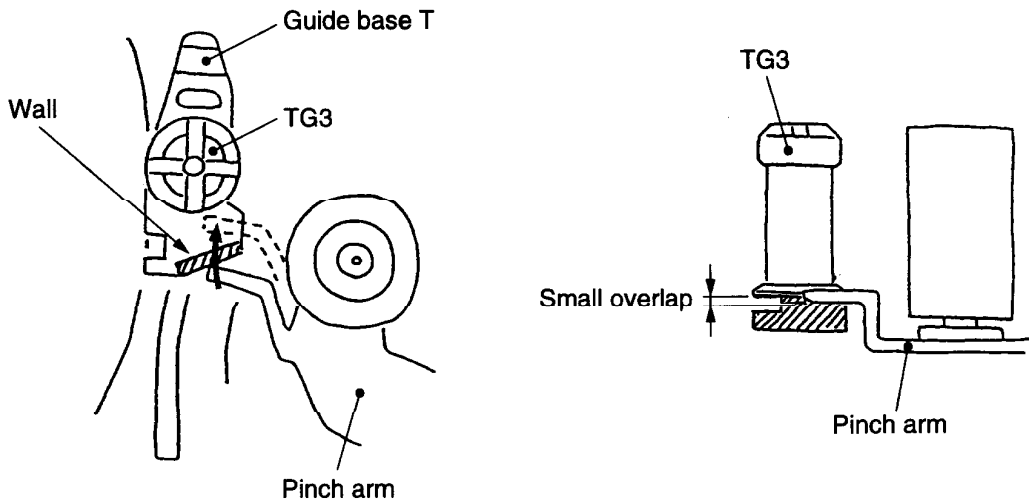
Tip of pinch arm gets over the wall of guide base T and enters between guide base T and TG3.
(Trouble with pinch arm) (Cause No. 7 of Figure 3)

(Symptom)

The tip of pinch arm gets over the wall of guide base T and enters between guide base T and TG3, causing loading failure.

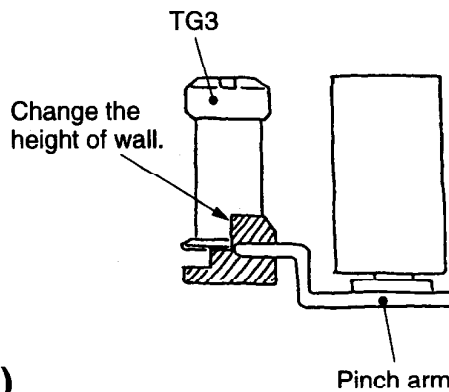
(Cause)

The amount of overlap of the tip of pinch arm and the wall of guide base T is small.



(Remedy)

Change the height of wall of guide base T to obtain margin to the tip of pinch arm.



(Repair procedure)

Replace pinch arm with improved part.

(Former)
A-7040-418-A



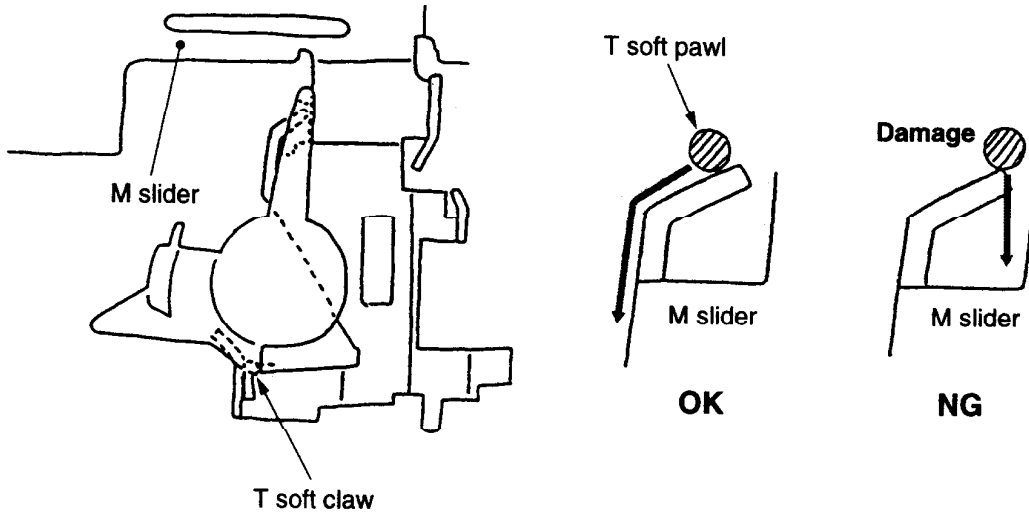
(New)
A-7040-418-B

15

T soft brake not working, trouble at loading/unloading
(Damage to T soft claw) (mis-aligning M slider)

(Symptom)

The shaft at tip of T soft claw is caught in the bent portion of M slider and damaged at the time of unloading. T soft brake is not working or is caught at loading/unloading.

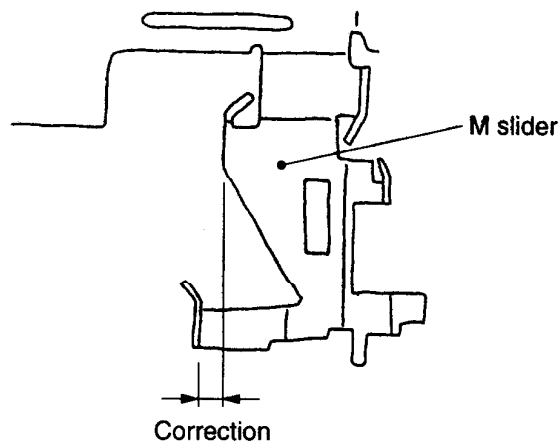


(Cause)

Insufficient margin due to variation of the position of bent portion of M slider.

(Remedy)

Correct the width of bent portion of M slider.



(Repair procedure)

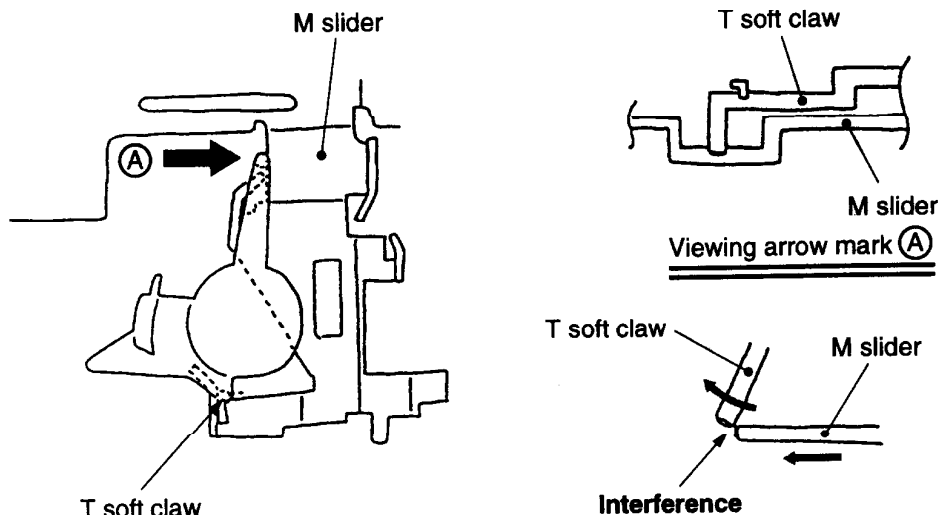
Replace M slider ass'y.

16

Problem with M slider and T soft claw
(T soft brake torque becomes small)

(Symptom)

The tip of T soft claw interferes with the corner of M slider at loading, and T soft brake torque (failure of T soft brake) becomes small.

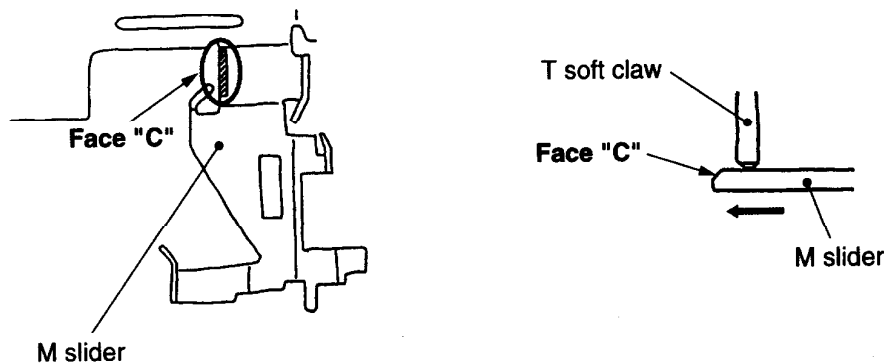


(Cause)

Insufficient margin of clearance between the tip of T soft claw and M slider in the direction of height.

(Remedy)

Add face "C" to the position that touches T soft claw of M slider.



(Repair procedure)

Replace M slider.

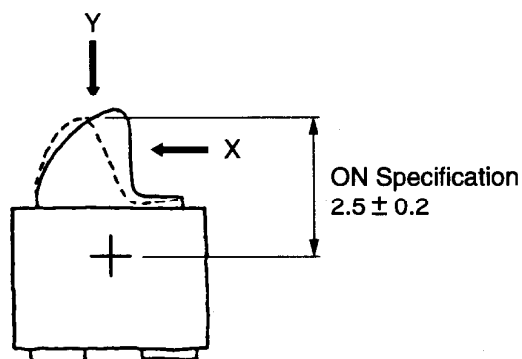
17**"No cassette" displayed on cassette deck****(Symptom)**

C-IN SW (C.C. LOCK) is not ON at cassette DOWN and "No cassette" is displayed.

(Cause)

Insufficient margin of stroke at ON point of C-IN SW

1. SW ON point specification differs from standards of using MD.
2. Clearance between SW lever dowel and case hole is large, causing improper fit.

**(Repair procedure)**

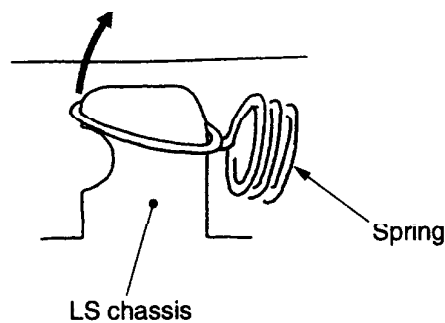
Replace SW with improved C.C. LOCK switch (1-572-680-11).

18**Damage to tape due to slack of T side tape
(Separation of T soft gear spring)****(Symptom)**

LS chassis spring is separated, causing incorrect operation (spring is caught by entry of foreign objects). Poor picture quality. (decrease in tension, etc.)

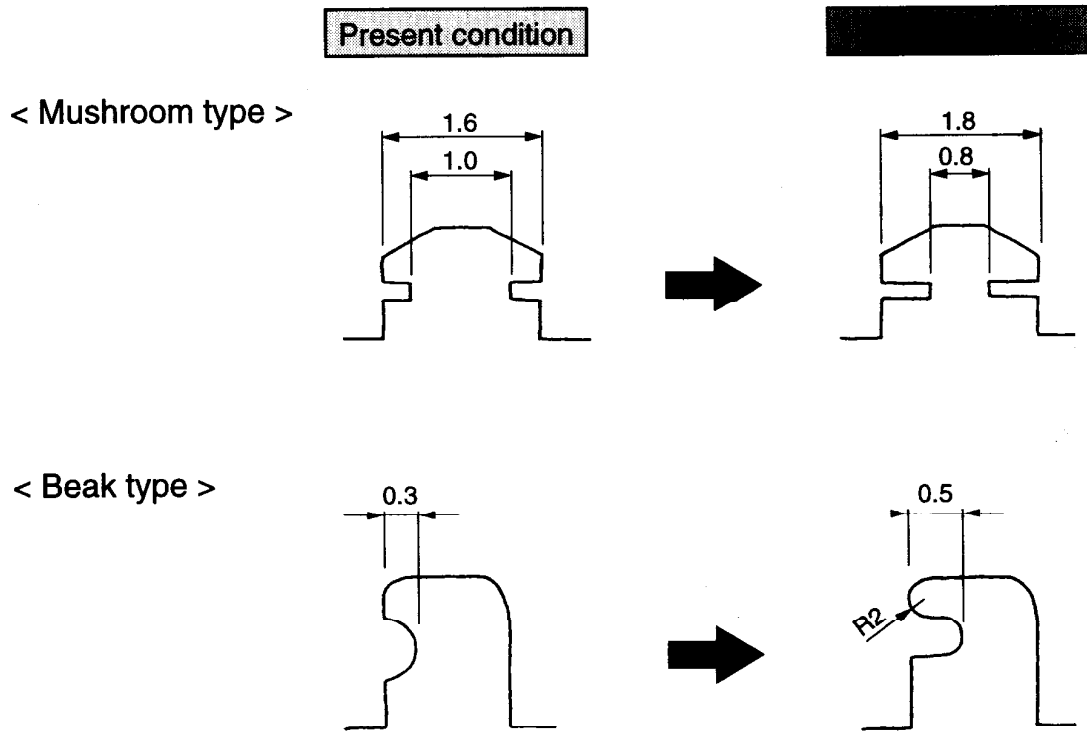
(Cause)

1. Spring is separated due to failure of hooking the spring claw (improper assembling).
2. Spring is easily separated by a touch of spring claw due to incorrect phase of spring hook or small overlap between LS chassis spring claw and spring hook.



(Remedy)

1. Push spring hooks with jig and check (prevention of hooking failure).
2. Change the shape of spring claw to increase overlap between spring claw and spring hook, and margin UP against separation of spring.



(Repair procedure)

- Mount the spring hook correctly to prevent separation (repair).
- Improved parts are available from our stock.

19**Tape not ejected (Capstan motor not rotating)****(Symptom)**

Capstan motor does not rotation due to damage to driver IC, causing loading failure at tape IN or EJECT failure.

(Cause)

- Damage due to over-current
Short-circuit between terminals due to incorrect handling, short-circuit due to entry of foreign objects or slant insertion of flexible cable.

(Repair procedure)

- Remove foreign objects and check for slant inscrtion of flexible cable.
- Replace capstan motor, if driver IC is damaged.

(Symptom)

Camera picture swings at ON of steady shot compensation.

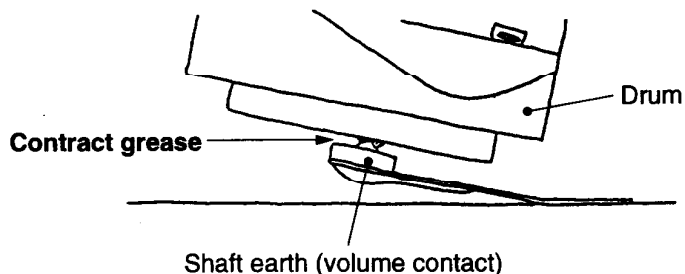
* This can be easily checked in ZOOM mode.

(Cause)

Shaft earth vibration interferes with the oscillation frequency of angular velocity sensor during drum rotation, causing failure in operation of steady shot preventive sensor and swinging of camera picture at ON of steady shot compensation.

(Repair procedure)

1. Apply grease to the tip of the volume contact of shaft earth.



2. Replace shaft earth with improved part.

(Former)
3-965-525-01



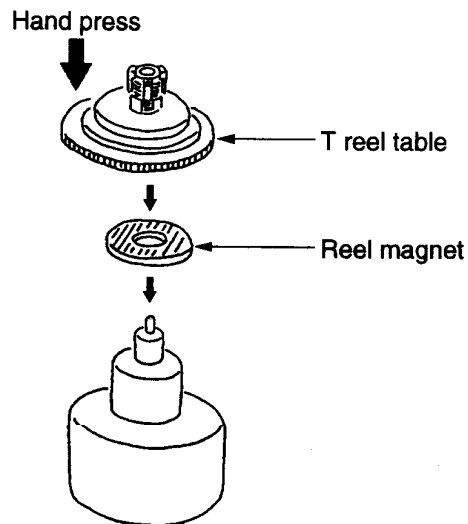
(New)
3-965-525-03

(Symptom)

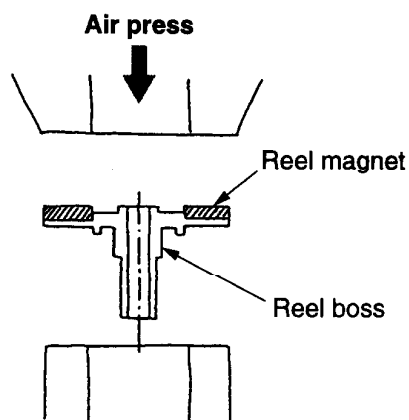
Adhesive force of S/T reel table rotation detect magnet seat is insufficient, causing separation of magnet and resulting in caution (reel table rotation cannot be detected) or rotation failure.

(Cause)

Magnet seat was stuck by a press of reel table boss with hand, causing variation in adhesive pressure and separation of reel table magnet.

**(Remedy)**

Use air press machine to obtain constant pressure on magnet seat for improvement.

**(Repair procedure)**

Replace reel table.

(Symptom)

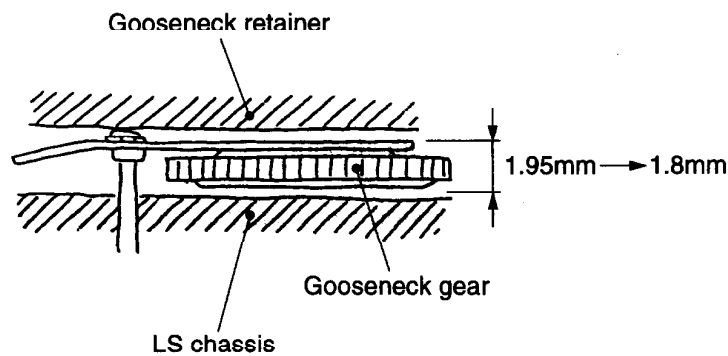
Gooseneck gear is caught between gooseneck retainer and LS chassis due to deformation of gooseneck retainer, causing failure in operation of gooseneck gear.

(Cause)

Insufficient margin of clearance between gooseneck retainer and LS chassis, and the thickness of gooseneck gear.

(Remedy)

1. Change the thickness of gooseneck gear, from 1.95 to 1.8mm.
2. Change the height of foot of gooseneck retainer + 0.05mm (from 2.20 to 2.05mm, clearance between foot and LS chassis is "0").



(Repair procedure)

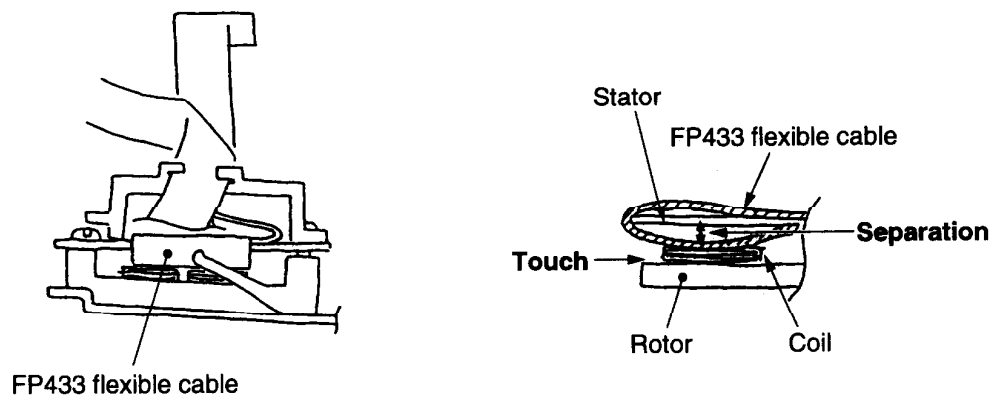
Replace gooseneck gear.

(Symptom)

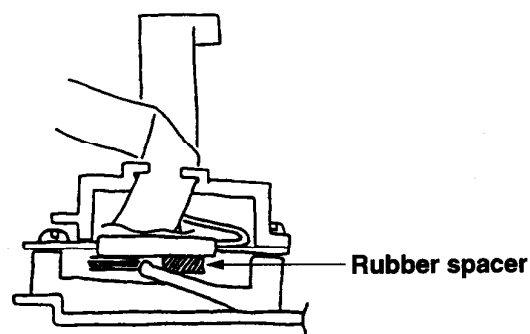
Coil mount of FP433 flexible cable of capstan motor is floating and the coil touches the rotor, causing unusual noise, incorrect rotation and swinging of picture.

(Cause)

Adhesive power of FP433 flexible cable is reduced due to oil which was left at the time of pressing the capstan motor to the stator.

**(Remedy)**

1. Clean stator (driver IC side) with alcohol.
2. Add rubber spacer between flexible cable and capstan spacer (Mount side) to forcedly prevent the flexible cable from floating.

**(Repair procedure)**

1. Clean the stator.
2. Add rubber spacer. **3-987-953-01**

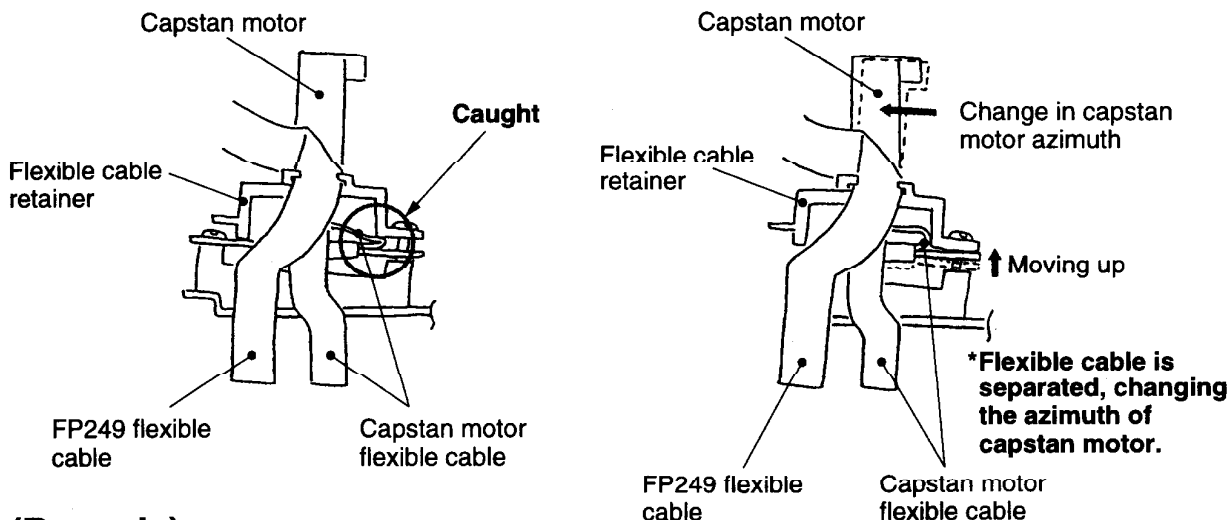


(Symptom)

Tape damage/wrinkle due to change in capstan motor azimuth.

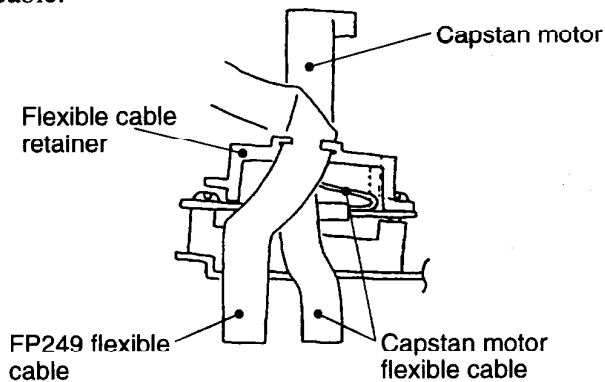
(Cause)

The folded portion of capstan motor flexible cable is caught and released at the time of assembling the flexible cable retainer, causing tape wrinkle or damage due to change in capstan azimuth and bending of tape.



(Remedy)

Change the shape of flexible cable retainer to prevent overlap of flexible cable retainer and capstan motor flexible cable.



(Repair procedure)

Repair flexible cable.

(Symptom)

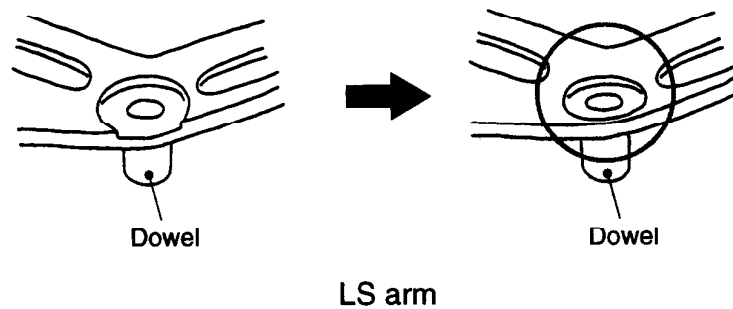
LS arm pin is deformed, causing failure in loading/unloading operation.

(Cause)

1. The set was dropped off, causing overload on the dowel of LS arm in the groove of cam gear.
2. LS chassis was forcedly pulled out by user for unloading when unloading failure occurred by tape jamming, caution, etc.
3. LS chassis was pressed forcedly (in the direction of loading) by user during loading/unloading.

(Remedy)

1. Change the dowel of LS arm from choked type to forged type.
2. Change the shape of the base at the root of dowel.



(Repair procedure)

Replace LS arm **3-965-532-21**

* Check to see if other parts are deformed.

- ① LS chassis
- ② T soft brake claw
- ③ Tension regulator plate
- ④ LS guide roller

(Symptom)

Entrance contact output is small, causing V sync failure and picture distortion.

(Cause)

The head projection was lowered to prevent the bending of picture, causing V SYNC failure due to adverse reaction.

(Remedy)

Change the projection of drum head.

(Repair procedure)

Replace drum ass'y.

(Symptom)

Playback output of one CH becomes small due to difference in output of CH1/CH2, causing noise (white noise, dot noise, etc.) in LP picture.

(Cause)

The upper drum is tilted due to clearance between drum bearing and shaft, so the height of CH1/CH2 head becomes out of position, causing difference in the pitch of CH1/CH2 of recording pattern and small playback output from one CH, which largely affects LP due to narrow track width even when the amount of pairing slip is the same.

(Remedy)

Change the drum bearing and shaft from insertion type to press-in type to prevent inclination due to clearance.

(Repair procedure)

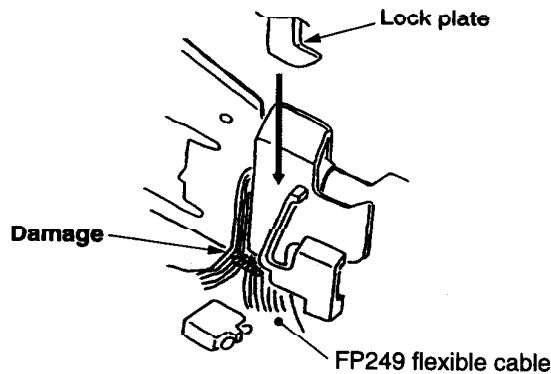
Replace drum ass'y.

(Symptom)

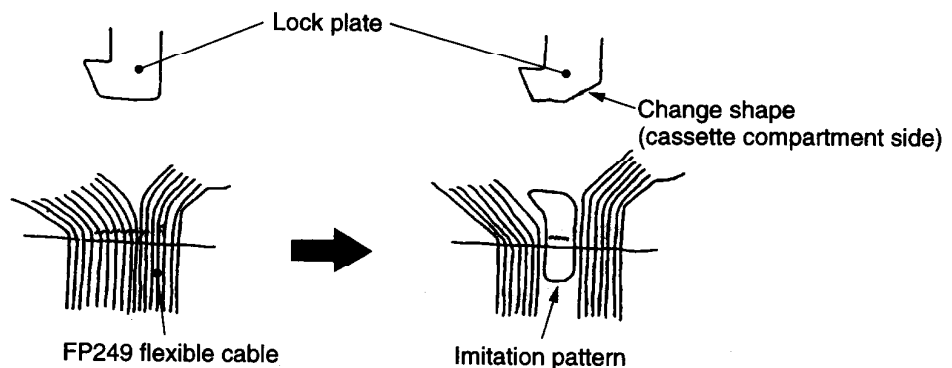
FP249 flexible cable is damaged by cassette compartment lock plate, causing failure in the sensor system for reel rotation detection, C.C. LOCK, etc.

(Cause)

Cassette compartment lock plate was pressed to FP249 flexible cable due to over-stroke at cassette compartment DOWN, and FP249 flexible cable was cut off by pressure.

**(Remedy)**

1. Change pattern of FP249 flexible cable to prevent the signal pattern from touching the lock plate.
2. Add imitation pattern to the position in contact with the lock plate of FP249 flexible cable for reinforcement.
3. Change the shape of tip of lock plate to reduce the area of contact with flexible cable.

**(Repair procedure)**

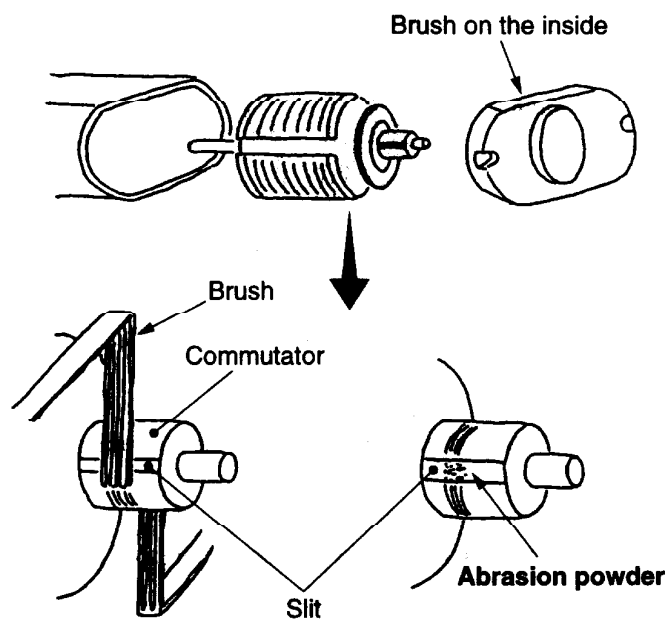
If flexible cable is found damaged by microscope or magnifier, replace chassis (S1) ass'y even when the same trouble does not occur again.

(Symptom)

Loading motor is not rotating due to short-circuit between slits of loading motor. Fuse blows out (due to short-circuit between terminals) and power cannot be set to ON.

(Cause)

The slits were shorted by abrasion powder from worn commutator of loading motor and the paint chips on lapping tape dropped off at the time of lapping the commutator, so the brush was contaminated with the mixture of paint chips and contact grease, causing in increase of wear of commutator and short-circuit between slits with the abrasion powder from the worn commutator.



(Remedy)

1. Introduce ultrasonic cleaning.
Commutator lapping → Ultrasonic cleaning → Contact grease coating
2. Make arrangement to prevent deposit of foreign objects after coating contact grease.

(Repair procedure)

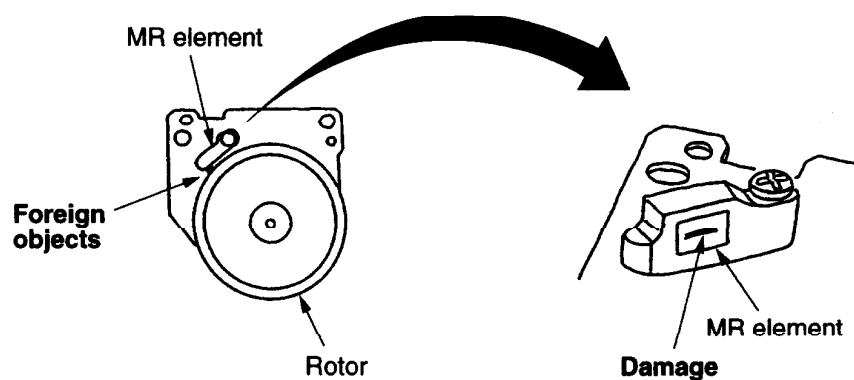
Replace loading motor.

(Symptom)

Capstan motor rotor is caught and does not rotation due to entry of foreign objects between the rotor and the MR element, causing damage to the surface of MR element, failure of servo operation and runaway of capstan motor.

(Cause)

1. Metallic objects entered from the opening of cassette compartment or small stones or sands deposited between the rotor and the MR element.
2. Metallic powder from a tap deposited on the rotor when tightening the MD frame screw.



(Repair procedure)

1. Clean the area between capstan motor and MR element.
2. When MR element is damaged, replace capstan motor.

31

Separation of guide base no stopper S level to its own

(Symptom)

Guide base is separated when unloading, and is caught at the time of loading/unloading.

(Cause)

Stopper was deformed at the time of assembling and guide base was separated due to decrease in the amount of catching the guide arm.

(Remedy)

S side Add a dowel to the stopper S to increase the holding force of GB stopper S and its margin at the time of deformation of the guide base.

(Repair procedure)

Replace stopper S.

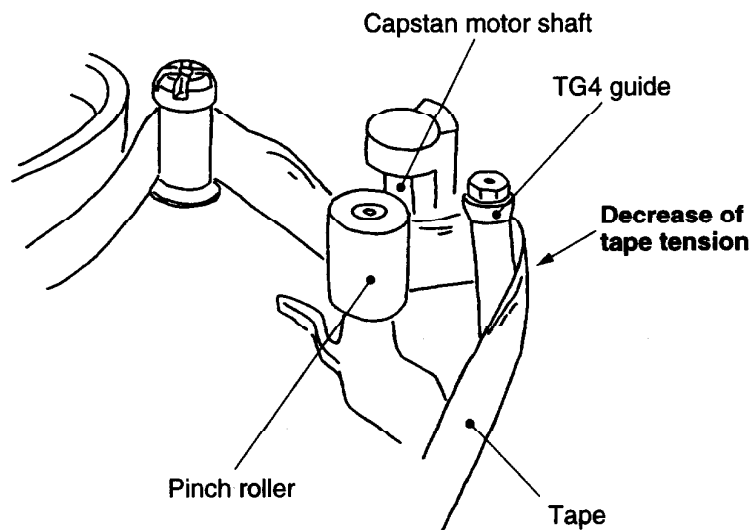
Break or wrinkle of tape (Due to incorrect adjustment of height of TG4)

(Symptom)

When the height of tape suddenly changes at reverse operation of CUE/REV mode tape or traveling of tape in reverse direction, the capstan motor shaft and pinch roller do not follow the change at the contact position, so tape is bent and pressed, causing break or wrinkle. Also, tape is slackened at STOP mode (pinch OFF) and the height of tape changes largely, causing tape break or wrinkle even when it is pressed to the pinch roller.

(Cause)

1. Tape does not travel smoothly over the capstan motor shaft and cannot follow the sudden change in the height of tape in tape travel mode.
2. Tape tension decreases at the upper side near the exit side TG4 guide, causing irregular tape travel.



(Repair procedure)

- Re-adjust tape path according to the technical news which has been issued.
- Replace TG4 arm ass'y.

8mm GENERAL (B MECHANISM)

SONY.

テクニカル ニュース
TECHNICAL NEWS

No. PV-965018

Category SL

Date Jul. 21. 1996

ソニー株式会社 PAVカンパニー
Sony Corporation PAV Company

件名 (Subject)

**TAPE DAMAGE DUE TO DISCREPANCY
IN TG-4 HEIGHT ADJUSTMENT**

(Symptom)

When repeatedly switching between PB and REV and between REC and STOP, tape damage as given below might be caused. (Fig. 1)

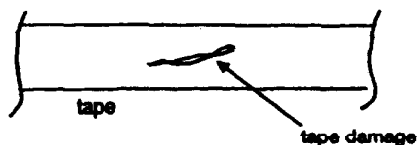


Fig. 1

(Cause)

Discrepancy in the TG-4 height adjustment leads to more deviation of the height of tape running between the capstan and TG-3 in the FWD and RVS directions. This results in tape warp causing tape wrinkle to be produced by the pinch rollers. (Fig. 2)

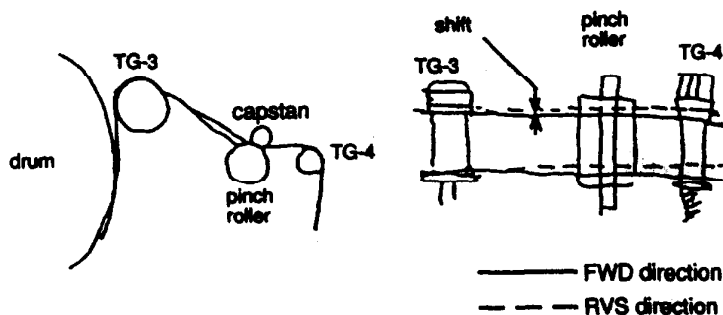


Fig. 2

(Procedure)

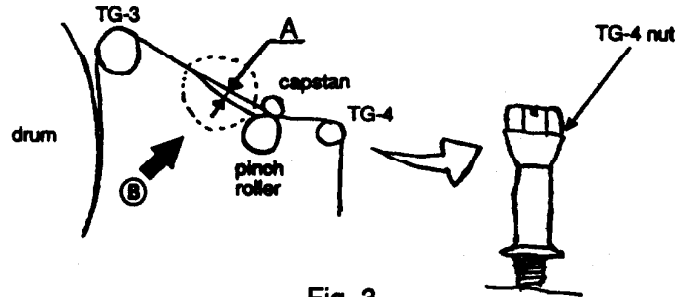
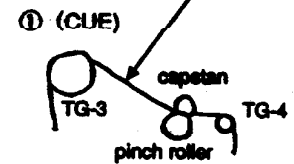
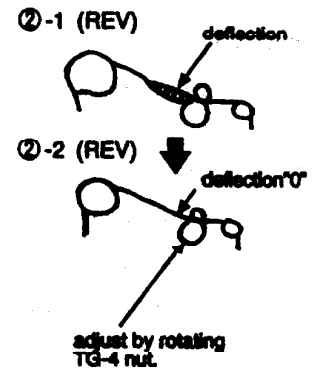


Fig. 3

- ① Run tape (regardless of the tape type) . View the part indicated by the arrow ⑧ from above the MD and place a point of view so that the upper edge and the lower edge of tape are aligned with each other and look like a line ($A=0$) at CUE.



- ② Keep the point of view, perform REV, and adjust the TG-4 height by rotating the TG-4 nut so that the width A produced due to deflection is zero.



- ③ Perform CUE/REV again and verify that the upper and lower edges of the tape are on the same position.

* If this adjustment cannot be made by rotating the TG-4 nut, the TG-4 nut should be replaced.

- ④ Repeat CUE/REV about 5 times at the tape top portion of E5-120 thin tape (the picture is already recorded) and verify that there is no noise due to tape damage.

8 mm B mechanism GENERAL

SONY

TECHNICAL NEWS

No. PV-985003

Category SL

Date February 13, 1998

SONY Corporation PAV Company

Subject

Remedial measures when the trouble "T Reel Does Not Takes Up Tape " occurs (T reel caution)

[Symptom]

When the trouble "T Reel Does Not Takes Up Tape " occurs in the type B mechanism, take the following remedial measures.

[Remedy]

Perform check and repair in accordance with the following the procedures.

1. FWD torque is small

If the FWD torque (measuring T side torque during playback) using torque cassette, is 5 g-cm or less, there is a possibility that the take up torque becomes insufficient due to the torque loss between reel shaft and reel table. Apply oil to the T reel shaft as shown in Fig. 1.

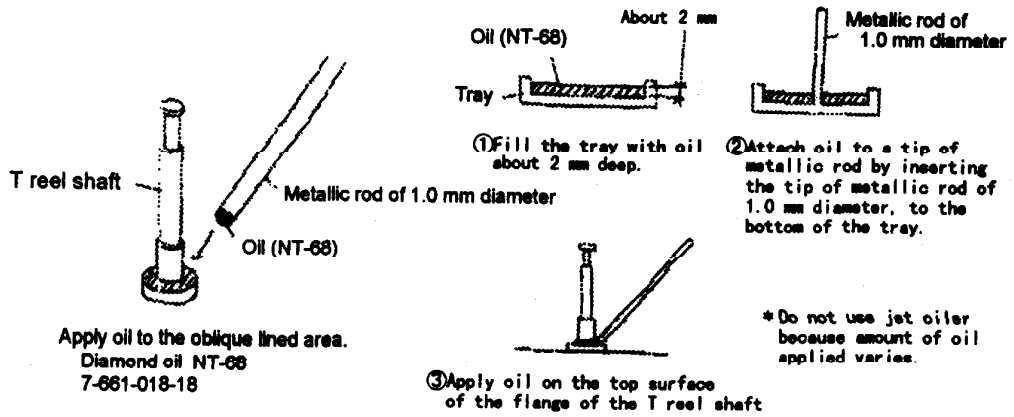
2. Gooseneck retainer is bent

When there are scars on the gooseneck retainer and T reel table as shown in Fig. 2, the gooseneck retainer interferes mechanically with the T reel due to bending of the gooseneck retainer. When there are scars, replace the gooseneck retainer.

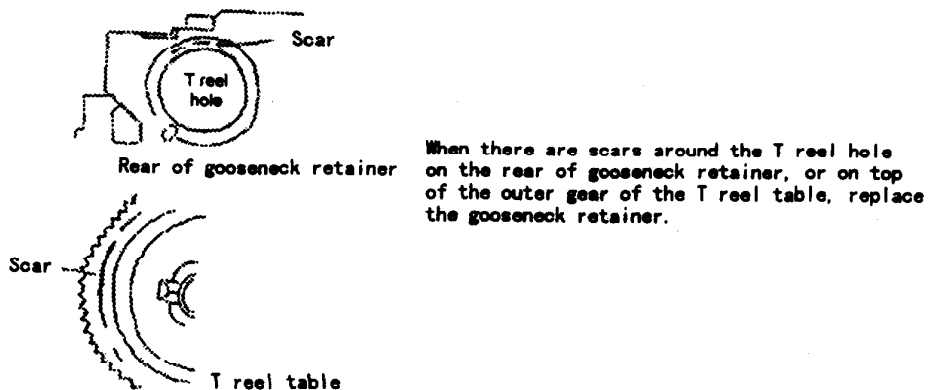
3. T reel height is low

When the trouble "T Reel Does Not Takes Up Tape " occurs in the cases other than the above describe items 1 and 2, add spacer to the T reel as shown in Fig. 3.

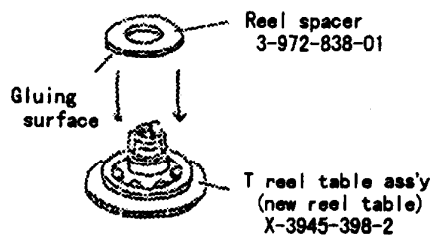
[Fig. 1 FWD torque is small]



[Fig. 2 Gooseneck retainer is bent]



[Fig. 3 T reel height is low]



If tape slack occurs even though the FWD torque and gooseneck retainer are normal, it is anticipated that the T-reel height is low. Therefore, add one piece of reel spacer.

Note: It means to attach an additional spacer with glue to the new reel table that has been informed by Technical News earlier.

8 mm B mechanism GENERAL

SONY

TECHNICAL NEWS

No. PV-985045

Category SL

Date September 25, 1998

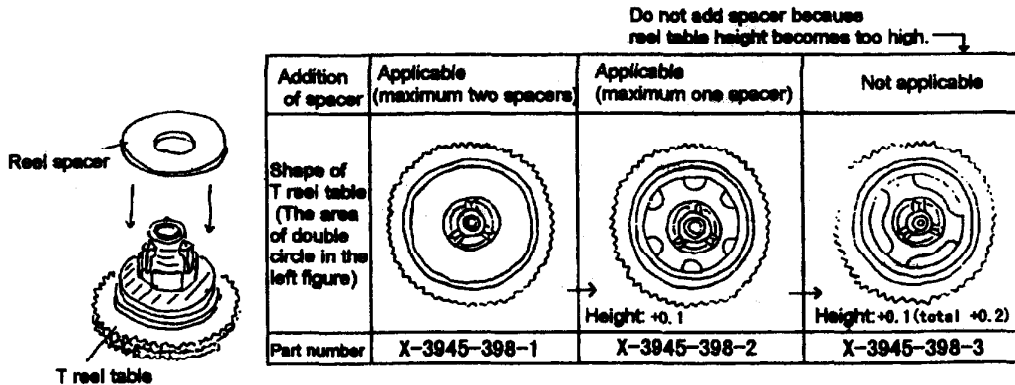
SONY Corporation PAV Company

Subject

Unification of Improvements "T. Reel Height Change" for the Trouble of Reel Does Not Wind Tape

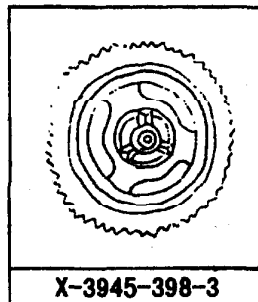
[Content]

For the troubles on market that "reel does not wind tape", the remedial measures are issued by the technical news PV-985016. At present there are three different remedial measures are being introduced to market. The remedial measure for this trouble is unified to the method using the suffix -3 hereafter due to the part supply problem and for improvement of part reliability.



[Remedial measure]

Supply of the parts having suffix -1 and -2 is stopped. Part having suffix -3 only is supplied.



8 mm B mechanism GENERAL

SONY

REVISED

No. PV-975028
Category SL
Date Aug. 20, 1997

TECHNICAL NEWS

SONY Corporation PAV Company

Subject

Specification change of B mechanism reel table torque

This technical news describes the changes related to the reel table torque of B mechanism. Be careful that the torque check method is also changed and becomes different from that of the other existing mechanism deck (such A mechanism).

(Contents)

Use the following new specification values of reel table torque when it is measured using the torque cassette (GD-2086) in the models using B mechanism.

< Takeup side torque >

- Brake torque in RVS mode 7 to 14 g·cm
The RVS mode is the mode in which the EDIT SEARCH “-” is kept depressed during PB PAUSE. The takeup side torque is measured in this mode.
- The torque value in FWD (PB mode) is not checked in B mechanism. (This is the point to be noted.)

Note: The takeup side torque has been measured in the PB mode in the A mechanism. However, in B mechanism, the takeup side torque is measured only in the RVS mode. In addition to it, the torque value tends to show the lower value in B mechanism when compared with the A mechanism. It has caused the takeup reel table replacement in many cases.

The torque value tends to show the relatively lower values in B mechanism due to differences of structure and parts. It causes no problem at all. Do not check the takeup side torque using the PB mode in B mechanism.

< Supply side torque >

- Back tension in FWD mode (This torque should be checked in PB mode.) 8 to 10.5 g·cm
- Takeup torque in REV mode (The mode in which the REW button is kept depressed after PB) 17 to 35 g·cm.

8 mm B mechanism GENERAL

SONY.

TECHNICAL NEWS

No. PV-975031

Category. SL

Date. May, 28, 1997

Sony Corporation PAV Company

Subject

Remedy when grease is attached to tape

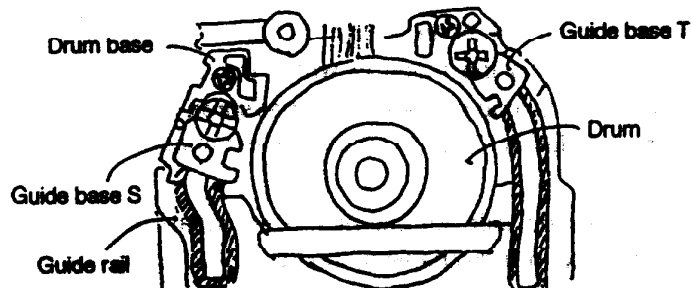
(Contents)

When grease which is oozed from type B mechanism of 8 mm, contacts tape, take the following remedy.

(Remedy)

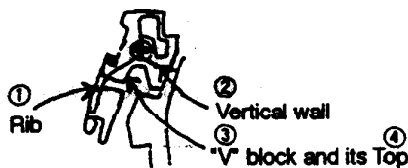
1. Remove grease (by wiping off grease using alcohol). The areas which must be wiped to remove grease, are shown below.

(1) Clean guide rail and guide base supply/takeup sliding surface of drum base using alcohol.

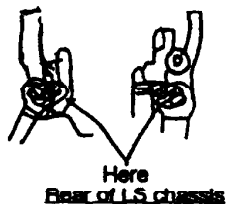


* Water drops may be visible at guide base supply/takeup sliding surface of drum base (the areas which are shown by slanted lines in the illustration). The water drops are oil contents which is oozed from grease.

(2) Clean ① to ④ of supply guide base using alcohol.



- (3) Remove LS chassis block assembly and remove grease from it using alcohol.
Supply and takeup guide base stopper block: two areas



2. Grease is changed. (Changed to grease SG-941 which has small amount of ooze.)

Former		New
SG-055G (green)	→	SG-941 (blue)
7-651-000-09		7-662-001-39

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