1. Operation

1-1 Nomenclature

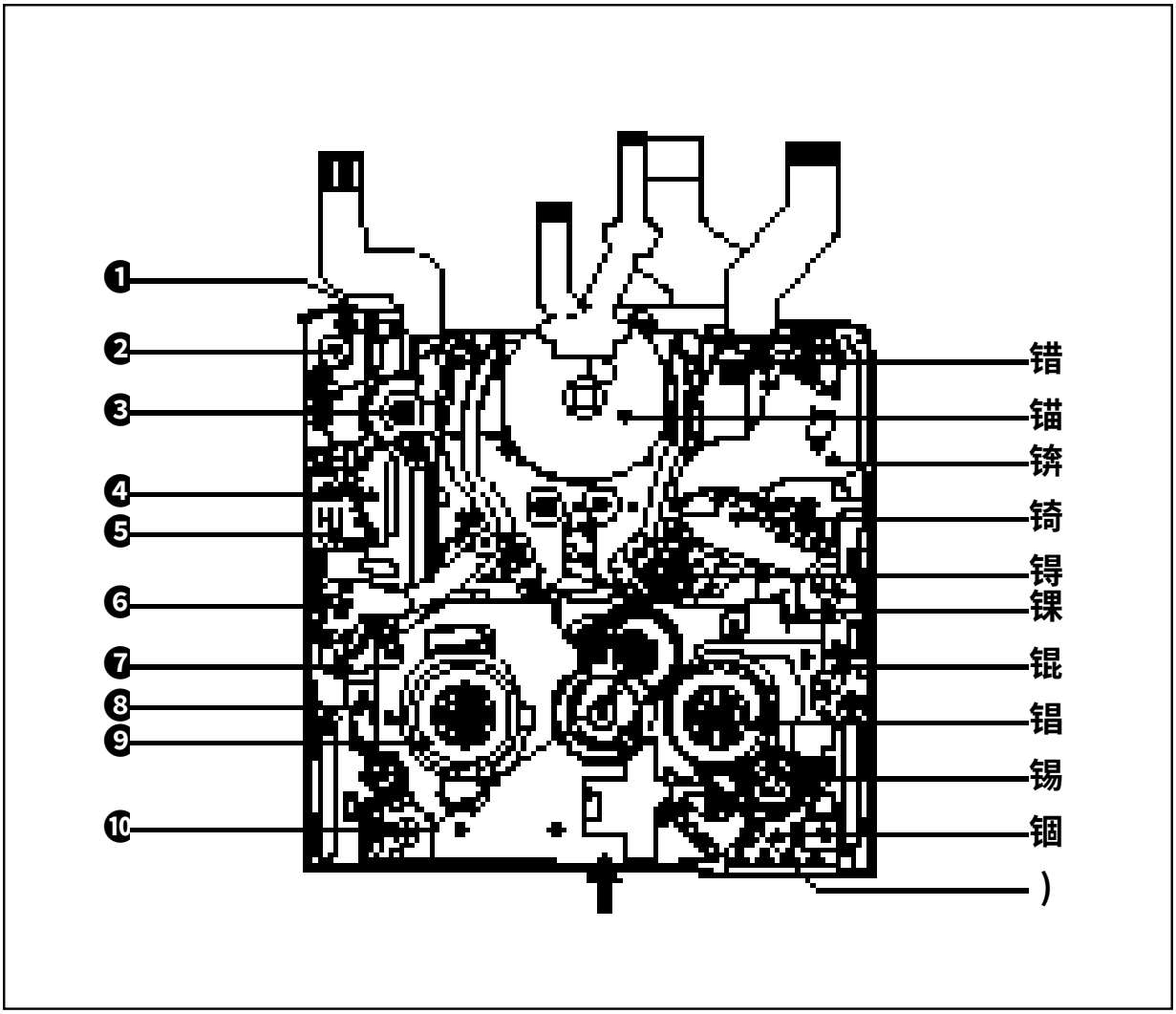


Fig 1-1

❶ BASE DRUM
❷ MOTOR LOADING
❸ GEAR WHEEL
❹ GEAR MODE SWITCH
❺ GUIDE TENSION CAM
❻ ARM TENSION
❼ BRAKE TENSION
❽ BRAKE S
❾ REEL DISK S
❿ IDLER
错 HOLDER FPC SUB
锚 DRUM
锛 MOTOR CAPSTAN
锜 REVIEW ARM
锝 ARM PINCH
锞 COVER REEL
锟 LEVER EJECT
锠 REEL DISK T
锡 BRAKE PULLY
锢 SWITCH MIC
) BRAKE MAIN T

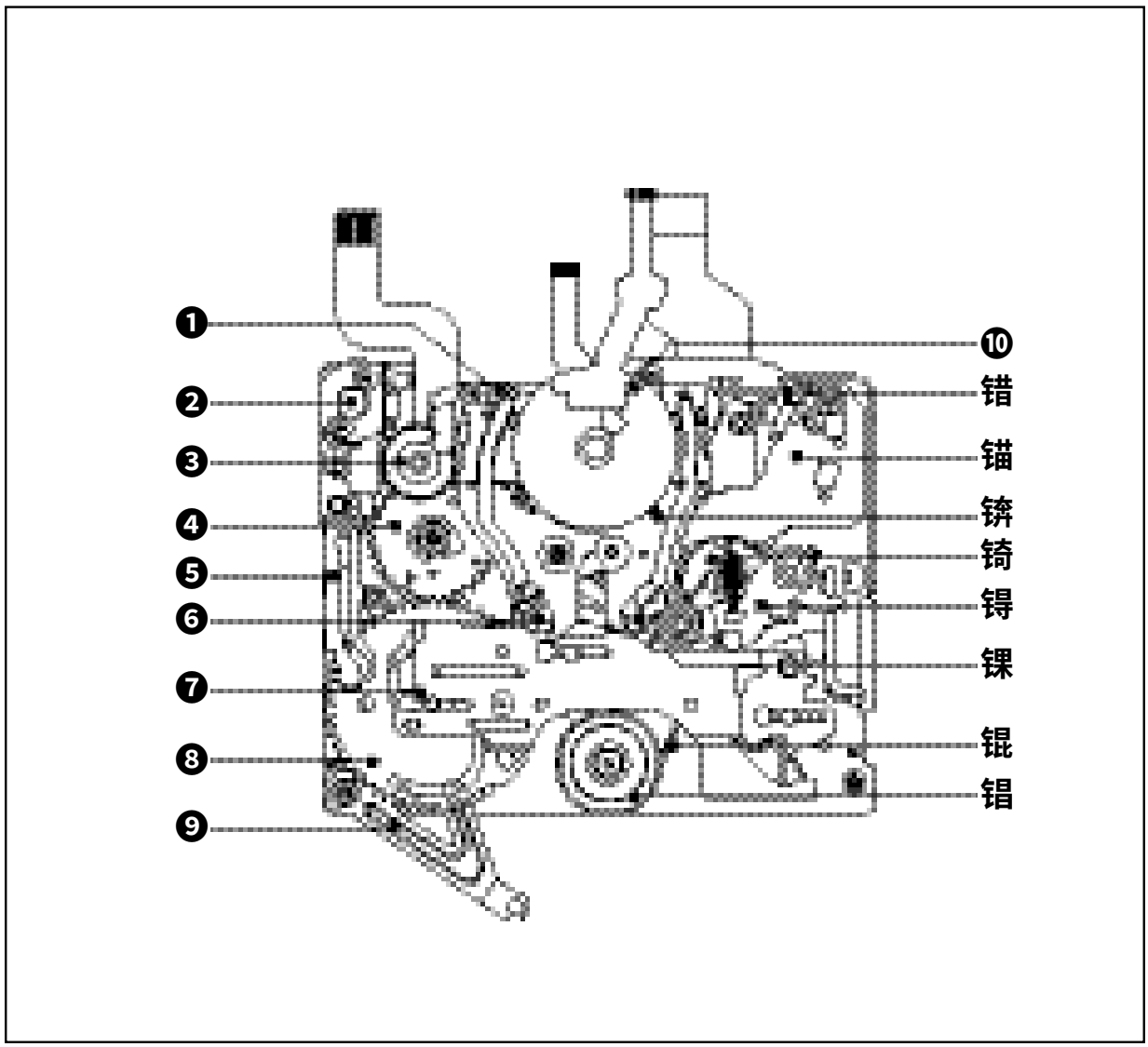


Fig 1-2

❶ BASE DRUM
❷ MOTOR LOADING
❸ GEAR WHEEL
❹ GEAR MODE SWITCH
❺ GUIDE TENSION CAM
❻ POLE BASE S
❼ SLIDE MAIN
❽ GEAR CAM MAIN
❾ LEVER CAM
❿ DRUM
错 HOLDER FPC SUB
锚 MOTOR CAPSTAN
锛 GUIDE RAIL
锜 GEAR CAPSTAN
锝 ARM PINCH
锞 POLE BASE T
锟 TIMMING BELT
锖 GEAR PULLY

1-2 Switch Modes

Table 1-1 Switch Mode Code

Modes	signal 2 + common	Rotation Angle of Gear Mode	Mechanical state
EJECT	18kΩ	-68.5。 ~ -46.6。	Open housing
UNLOAD	36	-4。 ~ 4。	Standby Cassette down
LD 1	54	51。 ~ 59。	Idler Rotate and stop in loading mode
LD 2	72	70。 ~ 140.8。	Capstan Rotate in unload mode
STOP	90	199.89。 ~ 207.85。	stop
PLAY	0	269.3。 ~ 288.5。	In REC/PB/CUE/FF/PAUSE

※ Fig is based Eject Mode.

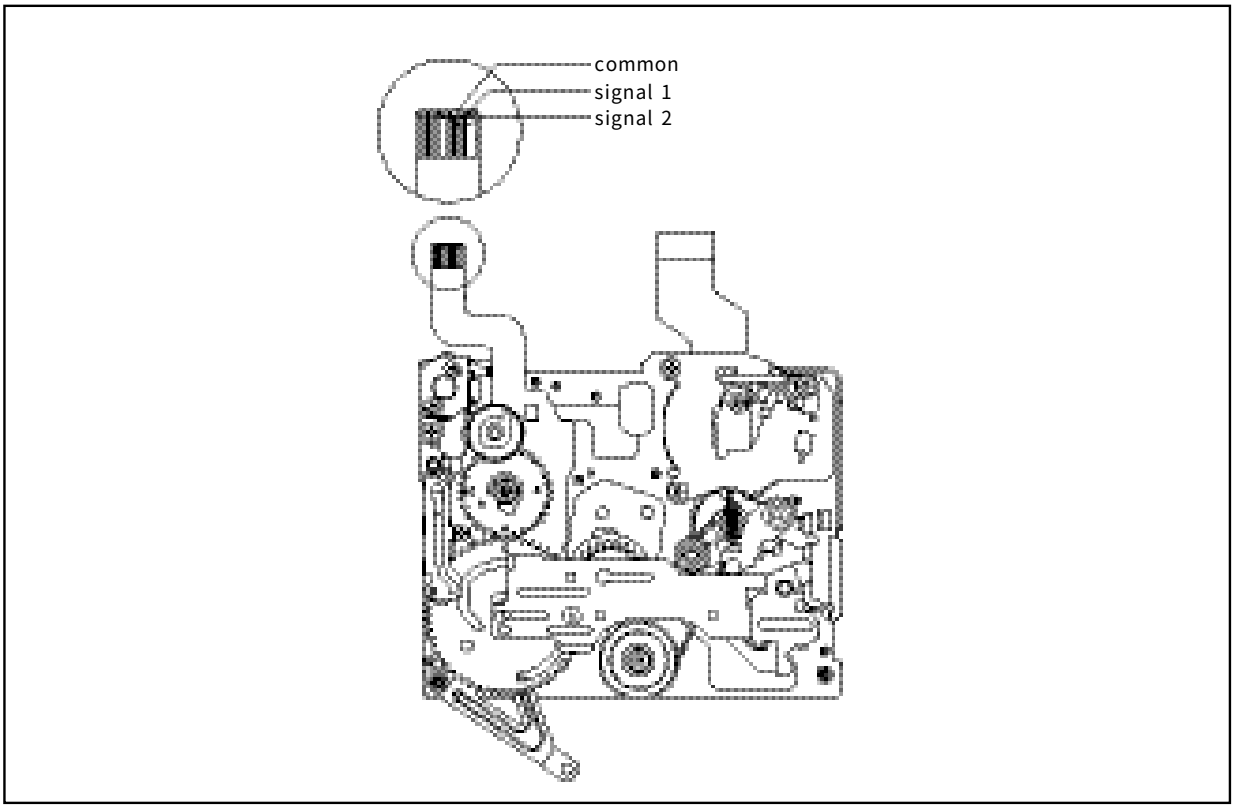


Fig 1-3

1-3 Operation

1-3-1 Gear Train

Moter Loading ❶ rotates
(Gear Worm Motor ❷ → Gear Worm Loading ❸)
↓
Gear Wheel ❹ rotates
↓
Gear Mode Switch ❺ rotates
↓
Gear Cam Main ❻ rotates

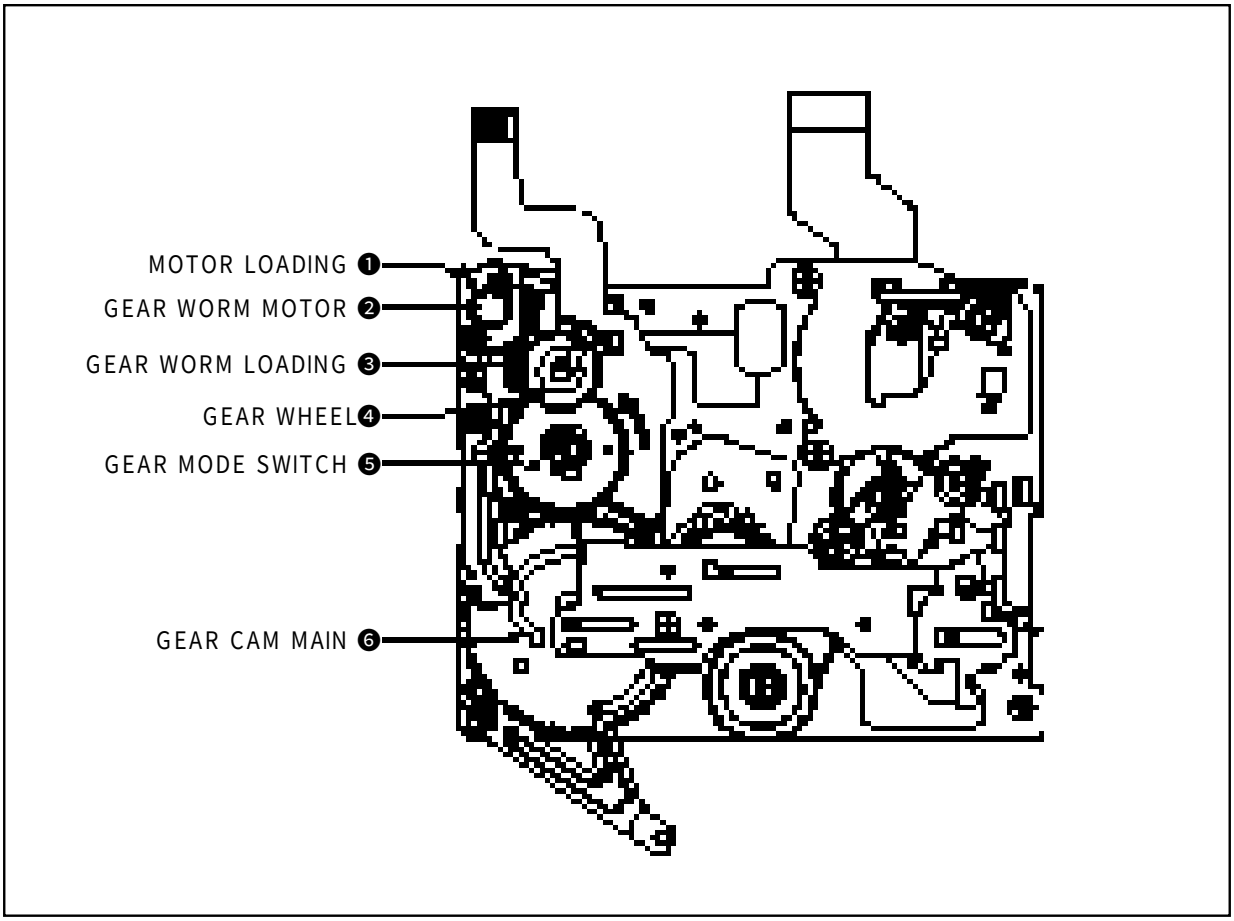


Fig 1-4

1-3-2 Chassis Sub

Motor Loading ❶ rotates.
↓
Gear Wheel ❷ rotates.
↓
Gear Mode Switch ❸ rotates.
↓
Gear Cam Main ❹ rotates.
↓
Lever Cam ❹ rotates.
↓
Chassis Sub ❻ moves.

Mode	Chassis Sub
	OFF ON
EJECT	
UNLOAD	
LD 1	
LD 2	
STOP	
PLAY	

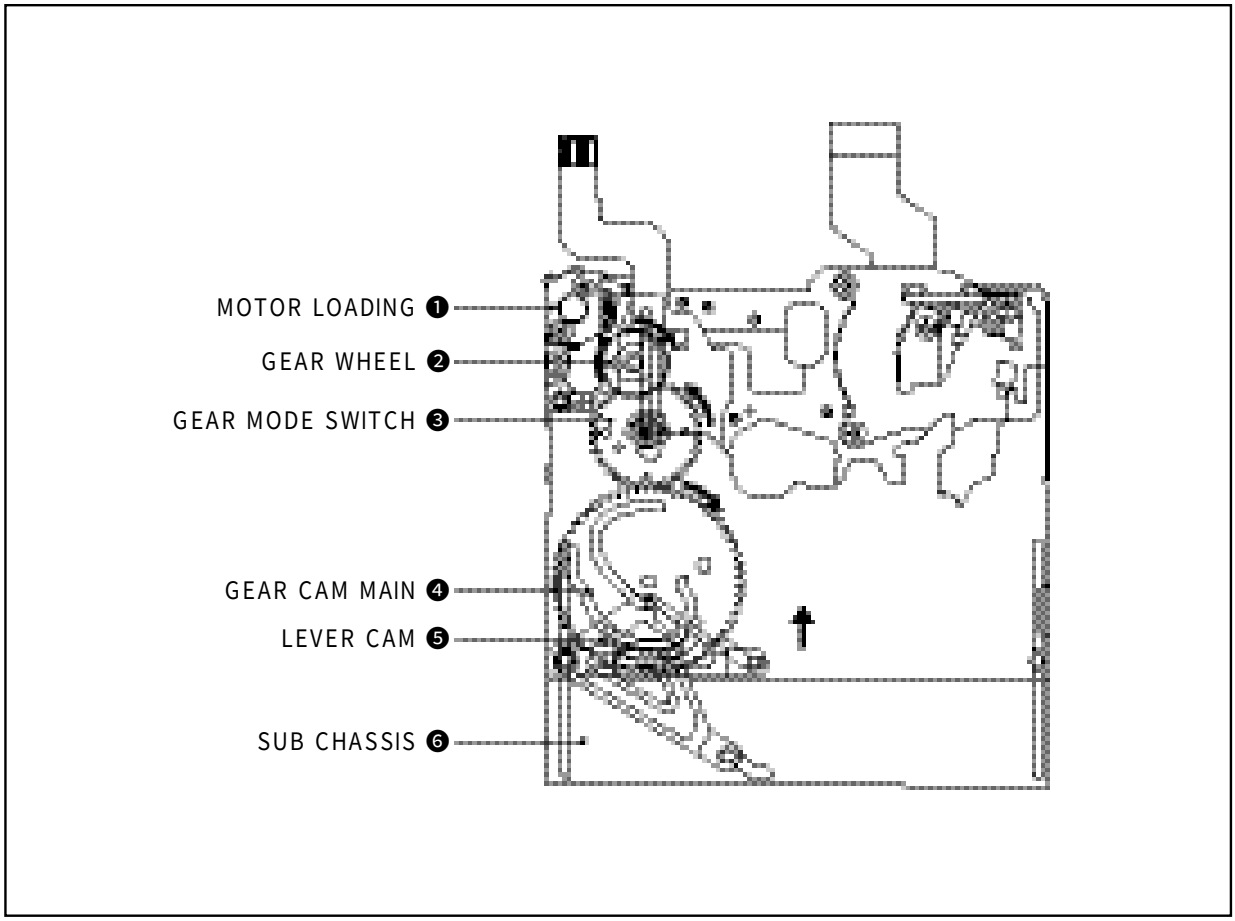


Fig 1-5

1-3-3 Brake S(SUB/MAIN)

Motor Loading ❶ rotates.
↓
Chassis Sub ❷ slides.
↓
Slide Main ❸ slides in direction of arrow.
↓
Brakes S ❹ released or operated to Reel Disk S ❺ by slide Main ❸.

Mode	Sub Brake	Main Brake
EJECT	OFF ON	OFF ON
UNLOAD		
LD 1		
LD 2		
STOP		
PB		

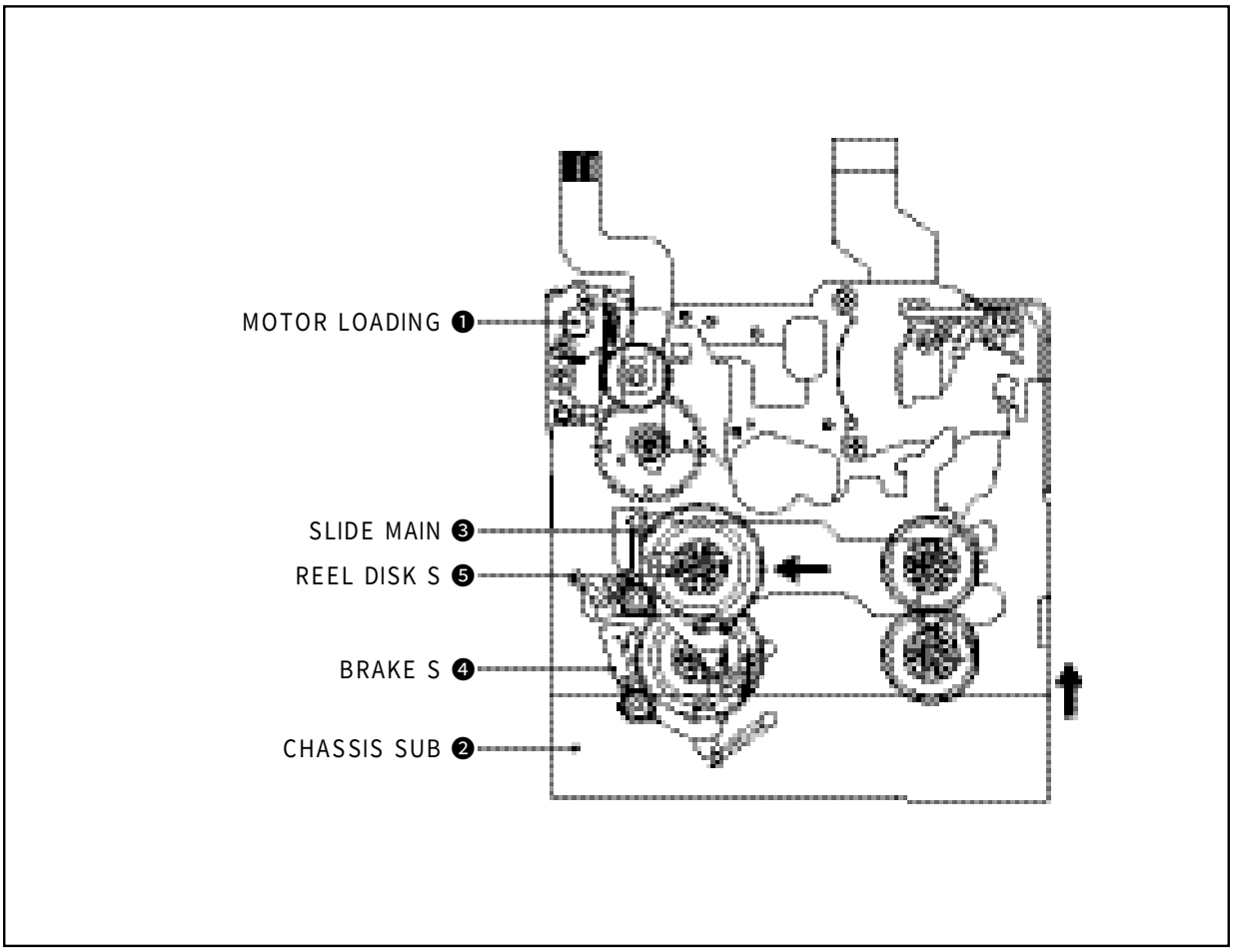


Fig 1-6

1-3-4 Brake T

Motor Loading ❶ rotates.
↓
Chassis Sub ❷ slides.
↓
Slide Main ❸ slides in direction of arrow.
↓
Brake T ❹ released or operated to Reel disk T ❺ by slide Main ❸

Mode	Brake Main T
	OFF ON
EJECT	
UNLOAD	
LD 1	
LD 2	
STOP	
PB	

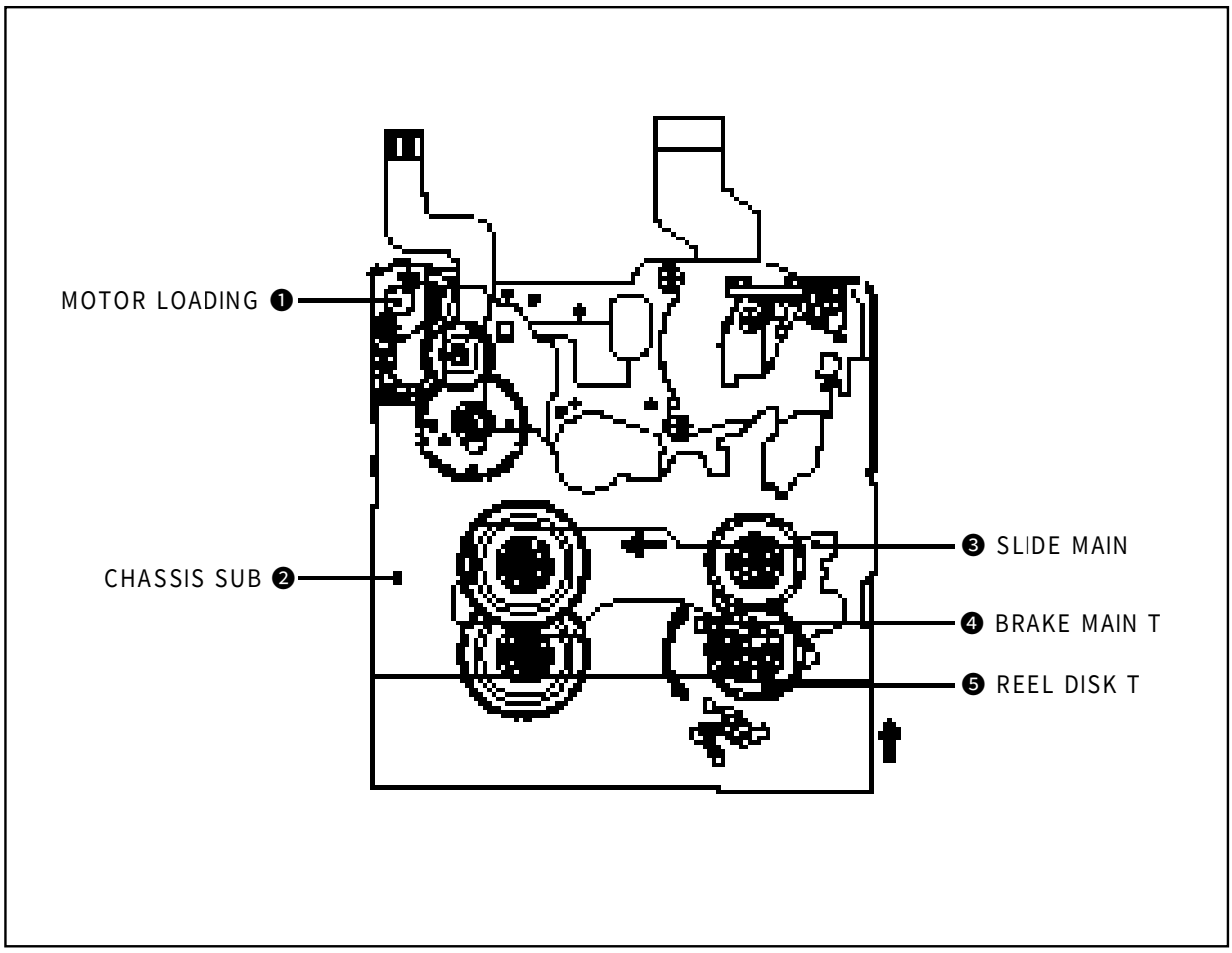


Fig 1-7

1-3-5 Arm Tension

Motor Loading ❶ rotates.
↓
Chassis Sub ❷ slides.
↓
Arm Tension ❻ slides in direction of arrow by Guide tension cam ❸ and cam curve A ❹
↓
Brake tension ❼ released or operated connection with Arm Tension.
↓
After Loading finished, Arm Tension ❻ is controled by cam curve ❾ of Gear Mode Switch ❽.

Mode	Arm Tension
	OFF ON
EJECT	
UNLOAD	
LD 1	
LD 2	
STOP	
PLAY	

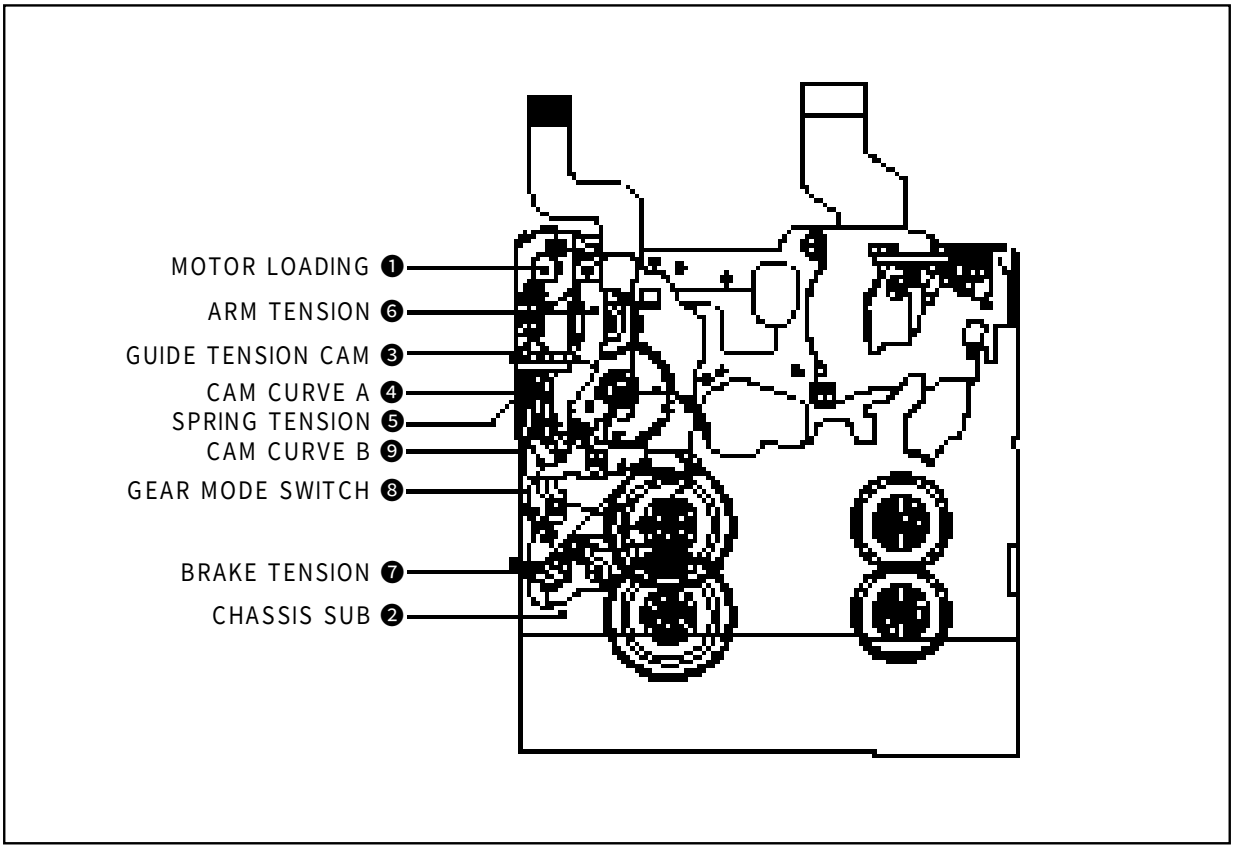


Fig 1-8

1-3-6 Arm Pinch

Motor Loading ❶ rotates.
↓
Chassis Sub ❷ moves.
↓
Arm Pinch ❹ rotates cam curve A ❸ of Chassis Sub ❷.
↓
After Chassis Sub ❷ is finished loading, slider main ❺ slides in direction of arrow.
↓
Pinch Roller ❻ contacts shaft of Motor capstan ❼.
↓
Motor loading ❶ rotates in reverse.
↓
Slide main ❺ moves in reverse direction of arrow.
↓
Pinch Roller ❻ released from shaft of Motor Capstan ❼ by spring force of spring Lever pinch ❽.

Mode	Arm Pinch
	OFF ON
EJECT	
UNLOAD	
LD 1	
LD 2	
STOP	
PLAY	

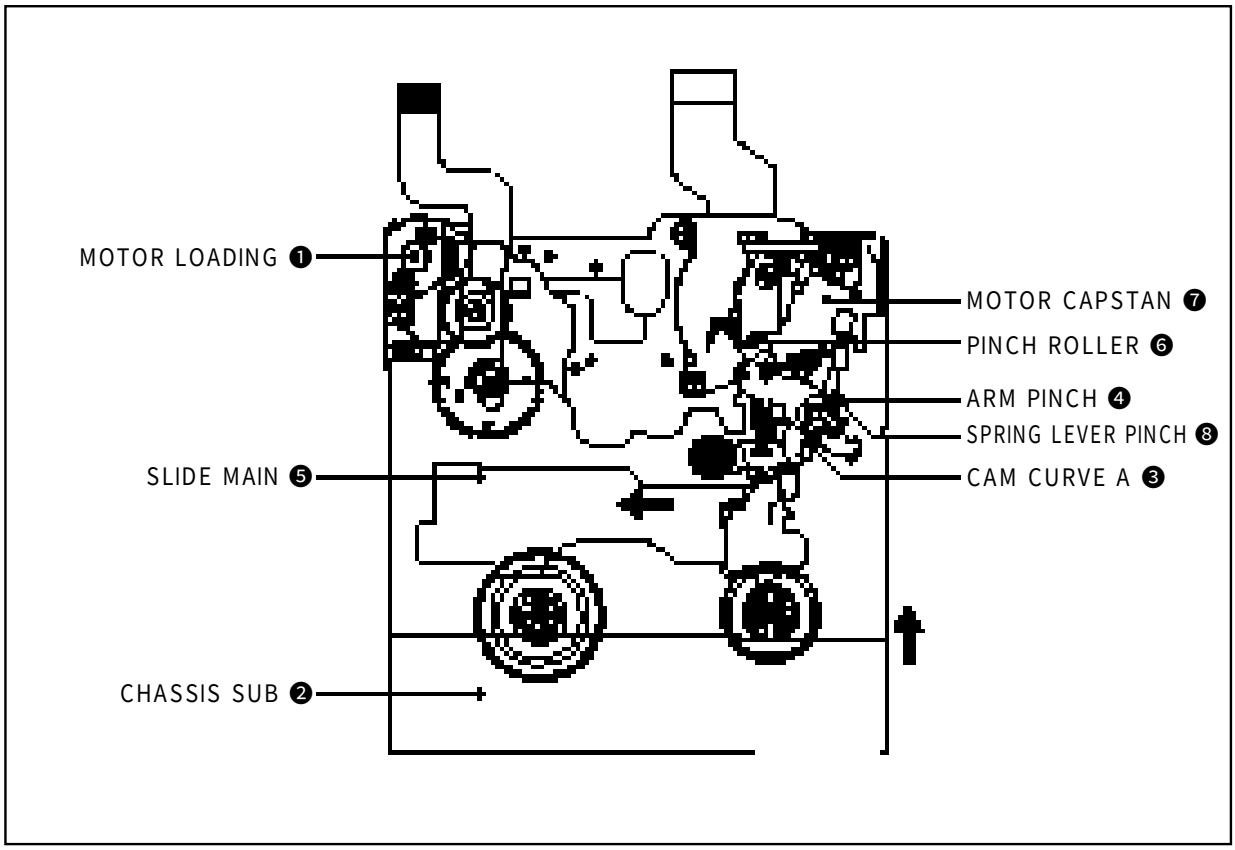


Fig 1-9

1-3-7 Arm Review

Motor Loading ❶ rotates.
↓
Chassis Sub ❷ moves.
↓
Arm Review ❺ simultaneously rotates clockwise and translates via cam curve ❹ of Chassis Main ❸

Mode	Arm Review
	OFF ON
EJECT	
UNLOAD	
LD 1	
LD 2	
STOP	
PLAY	

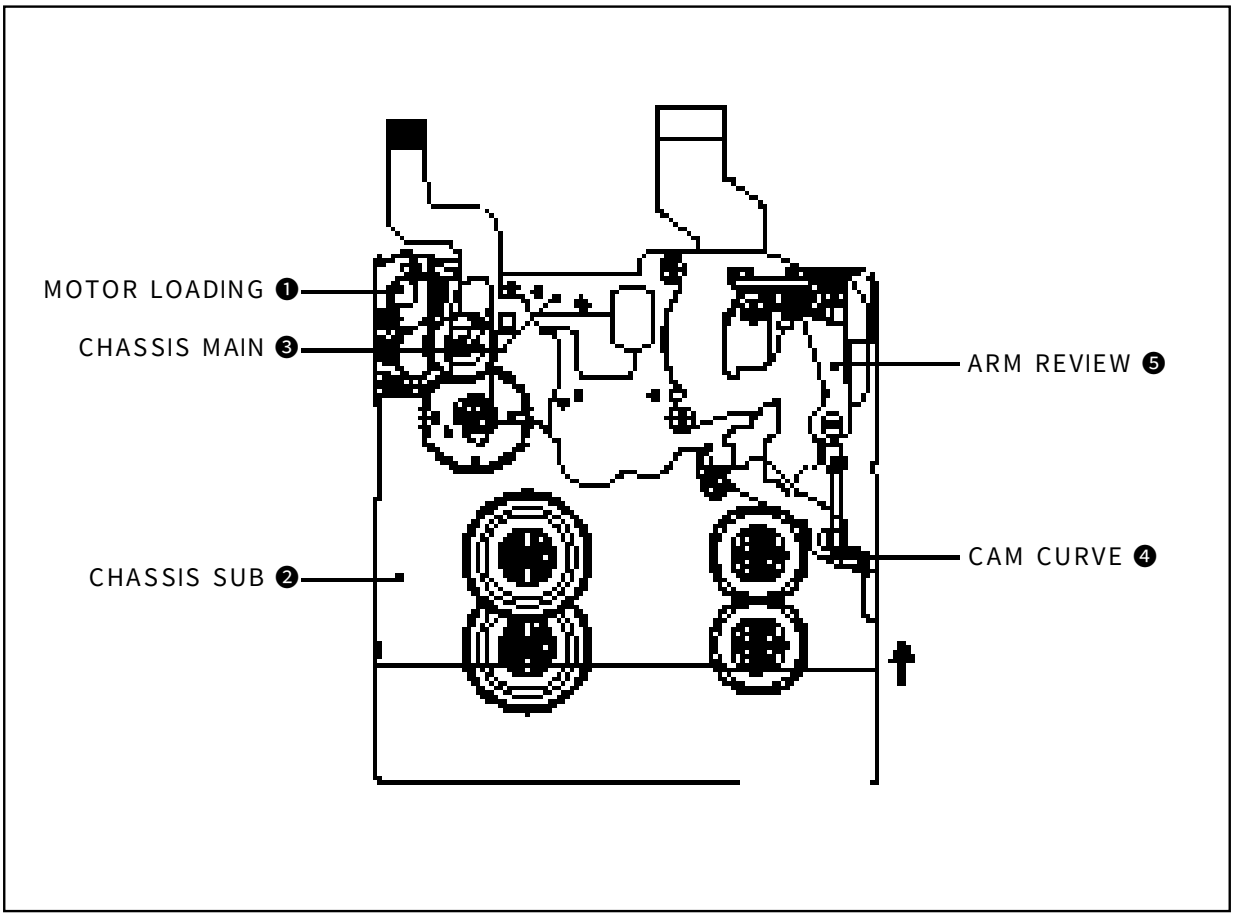


Fig 1-10

1-3-8 Pole Base S, T

Motor Loading ❶ rotates.
↓
Gear Wheel ❷ rotates.
↓
Gear Mode Switch ❸ rotates.
↓
Gear Cam Main ❹ rotates.
↓
Gear connector ❺ rotates.
↓
Arm Loading S and T are actuated by Gear Loading S ❻ and T ❼.
↓
Pole Base S ❽ and T ❾ slide along S and T rails.
↓
Pole Base S ❽ and T ❾ attach to V home of Base Drum 閣.

Mode	Pole Base S, T
	OFF ON
EJECT	
UNLOAD	
LD 1	
LD 2	
STOP	
PLAY	

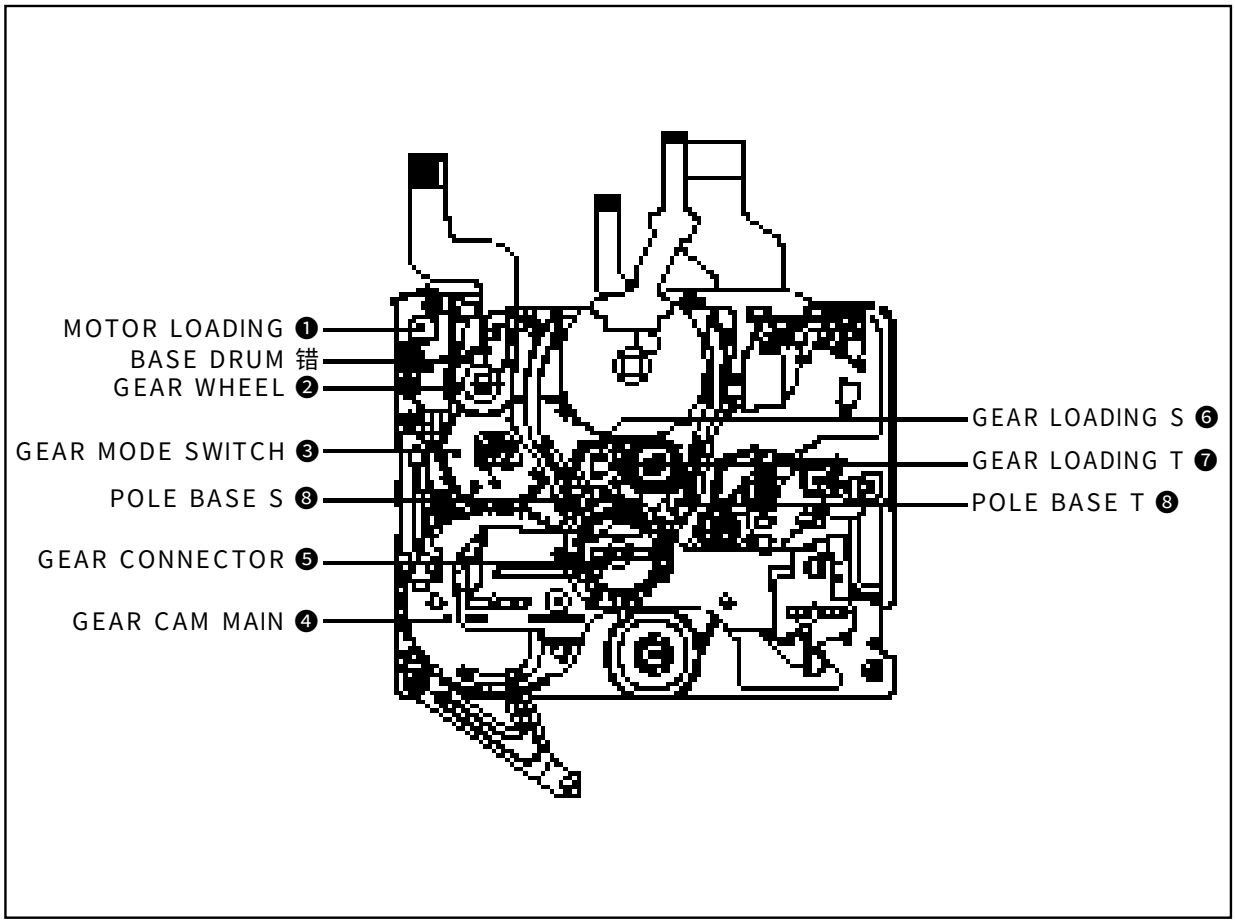


Fig 1-11

1-3-9 Reel Driving

Motor Capstan ❶ rotates.
↓
Gear Capstan ❷ rotates.
↓
Belt timming ❸ transmits rotation to Gear pully ❹.
↓
Gear Idler ❺ engages Reel Disk T ❻ or Reel Disk S ❻.
↓
Reel Disk T ❻ or Reel Disk S ❼ rotates.

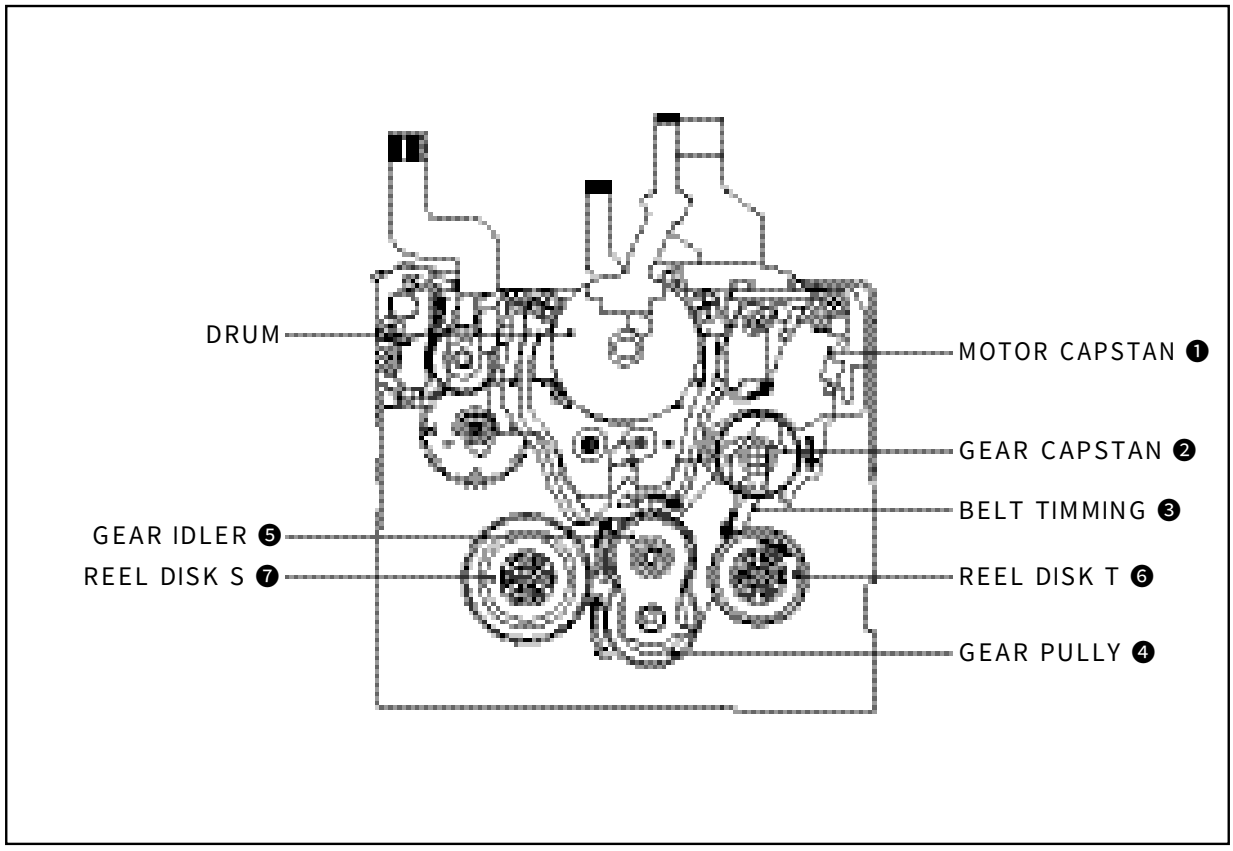
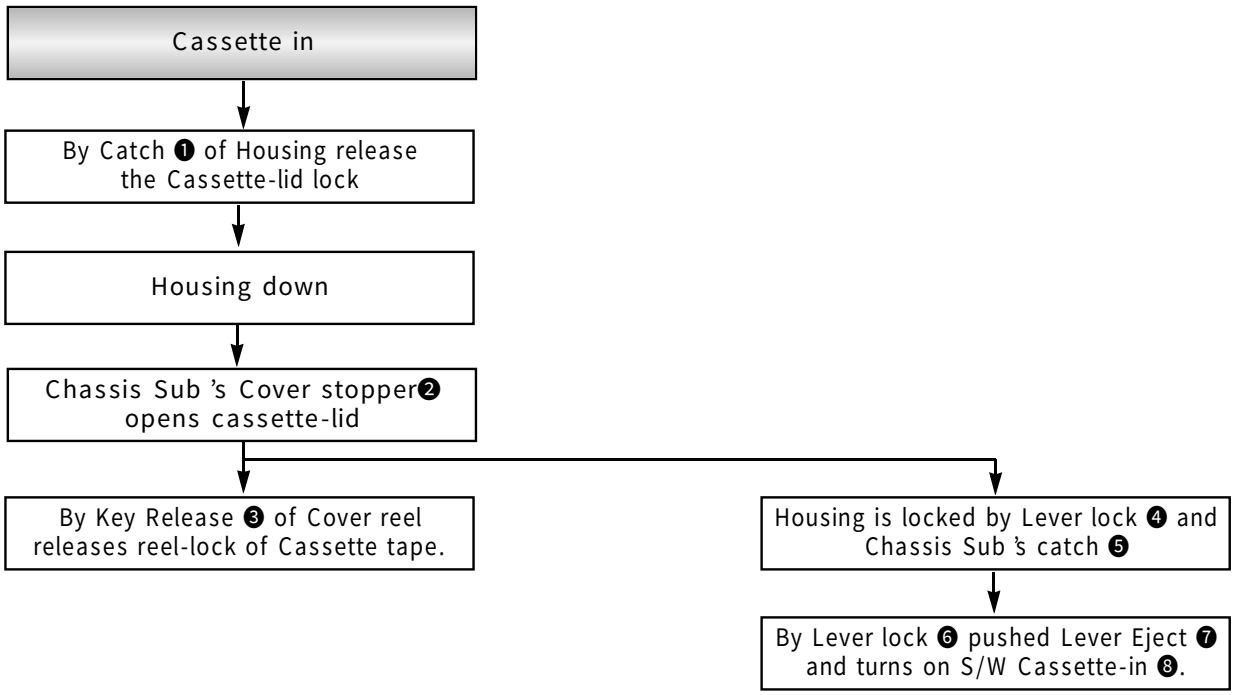


Fig 1-12

1-4 Mode Transitions

1-4-1 Cassette in → Cassette down



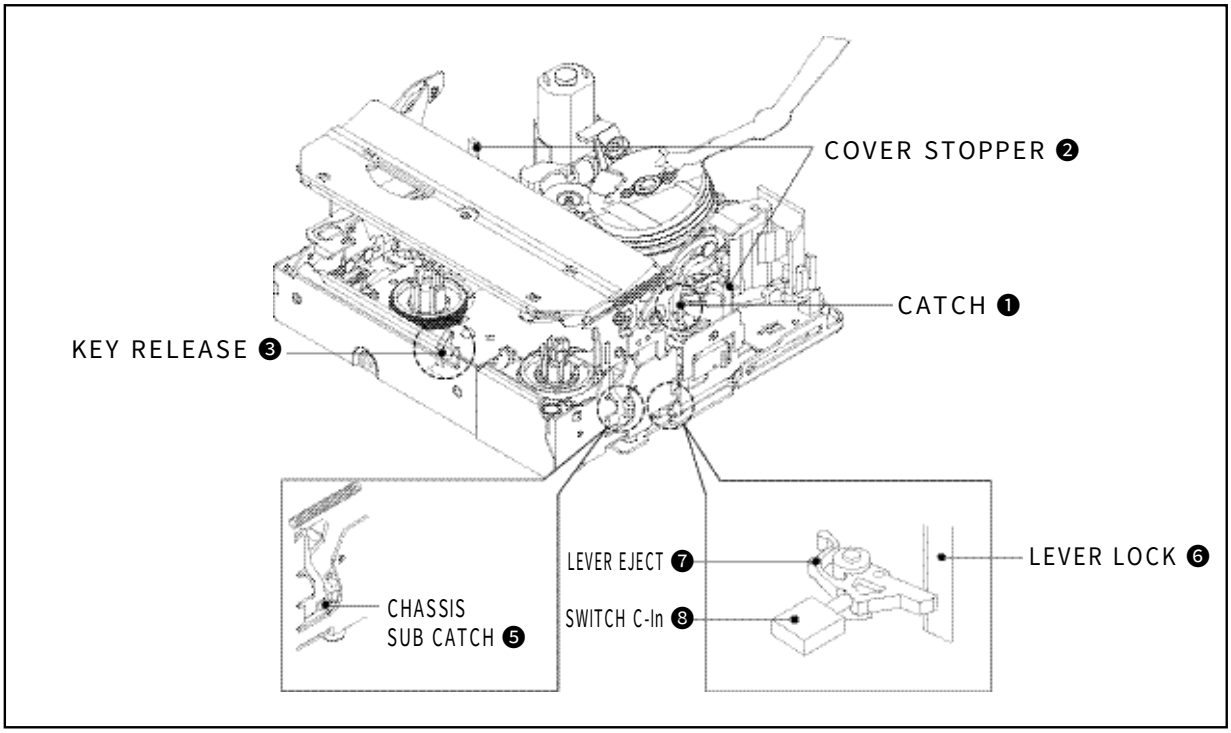
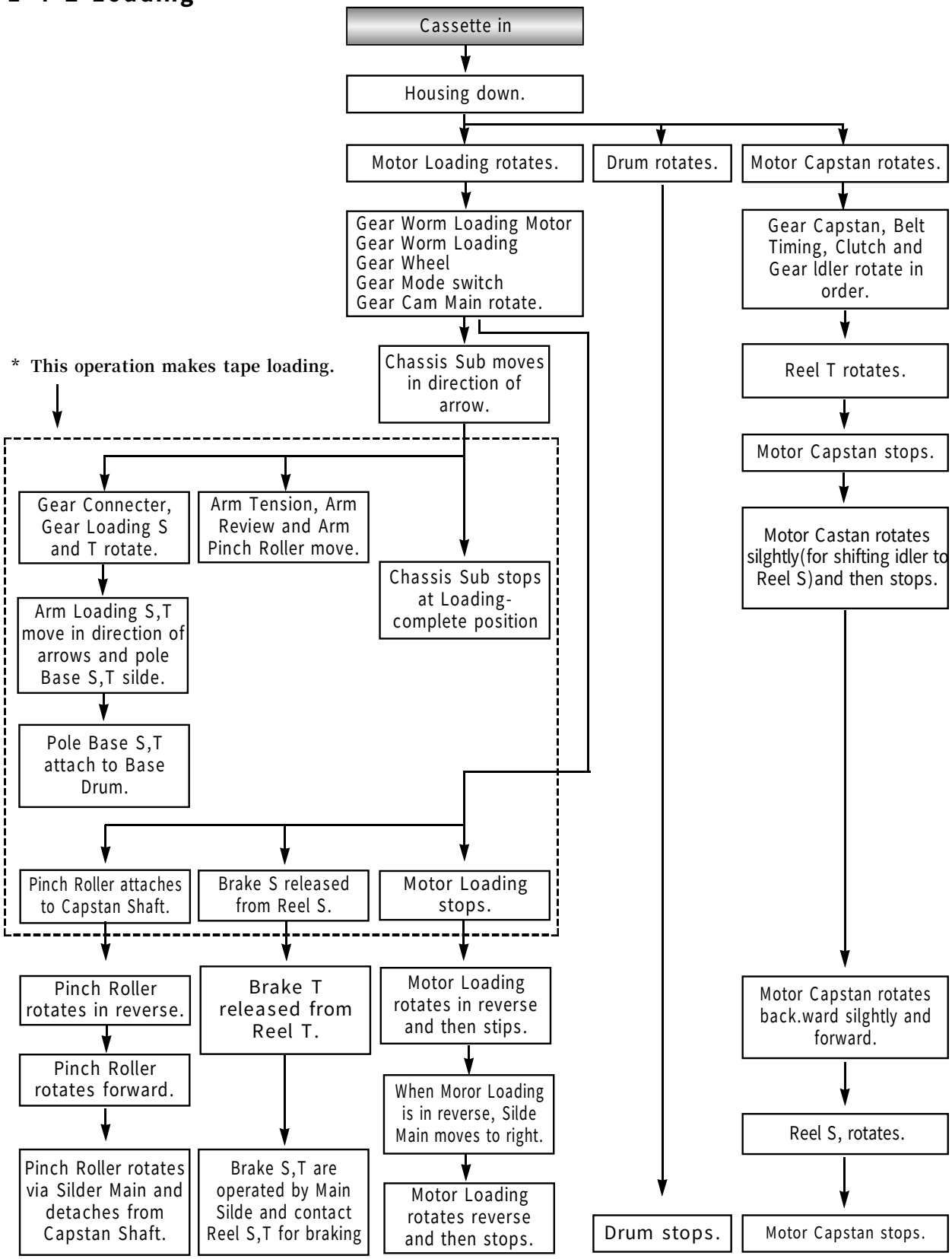


FIG 1-13

1-4-2 Loading


Cassette in
Housing down.
Motor Loading rotates.
Drum rotates.
Motor Capstan rotates.
Gear Worm Loading Motor
Gear Worm Loading
Gear Wheel
Gear Mode switch
Gear Cam Main rotate.
Gear Capstan, Belt Timing, Clutch and Gear ldler rotate in order.
* This operation makes tape loading.
Chassis Sub moves in direction of arrow.
Reel T rotates.
Motor Capstan stops.
Gear Connecter, Gear Loading S and T rotate.
Arm Tension, Arm Review and Arm Pinch Roller move.
Chassis Sub stops at Loading-complete position
Motor Castan rotates silghtly(for shifting idler to Reel S)and then stops.
Arm Loading S,T move in direction of arrows and pole Base S,T silde.
Pole Base S,T attach to Base Drum.
Pinch Roller attaches to Capstan Shaft.
Brake S released from Reel S.
Motor Loading stops.
Pinch Roller rotates in reverse.
Brake T released from Reel T.
Motor Loading rotates in reverse and then stips.
Motor Capstan rotates back.ward silghtly and forward.
Pinch Roller rotates forward.
When Moror Loading is in reverse, Silde Main moves to right.
Reel S, rotates.
Pinch Roller rotates via Silder Main and detaches from Capstan Shaft.
Brake S,T are operated by Main Silde and contact Reel S,T for braking
Motor Loading rotates reverse and then stops.
Drum stops.
Motor Capstan stops.

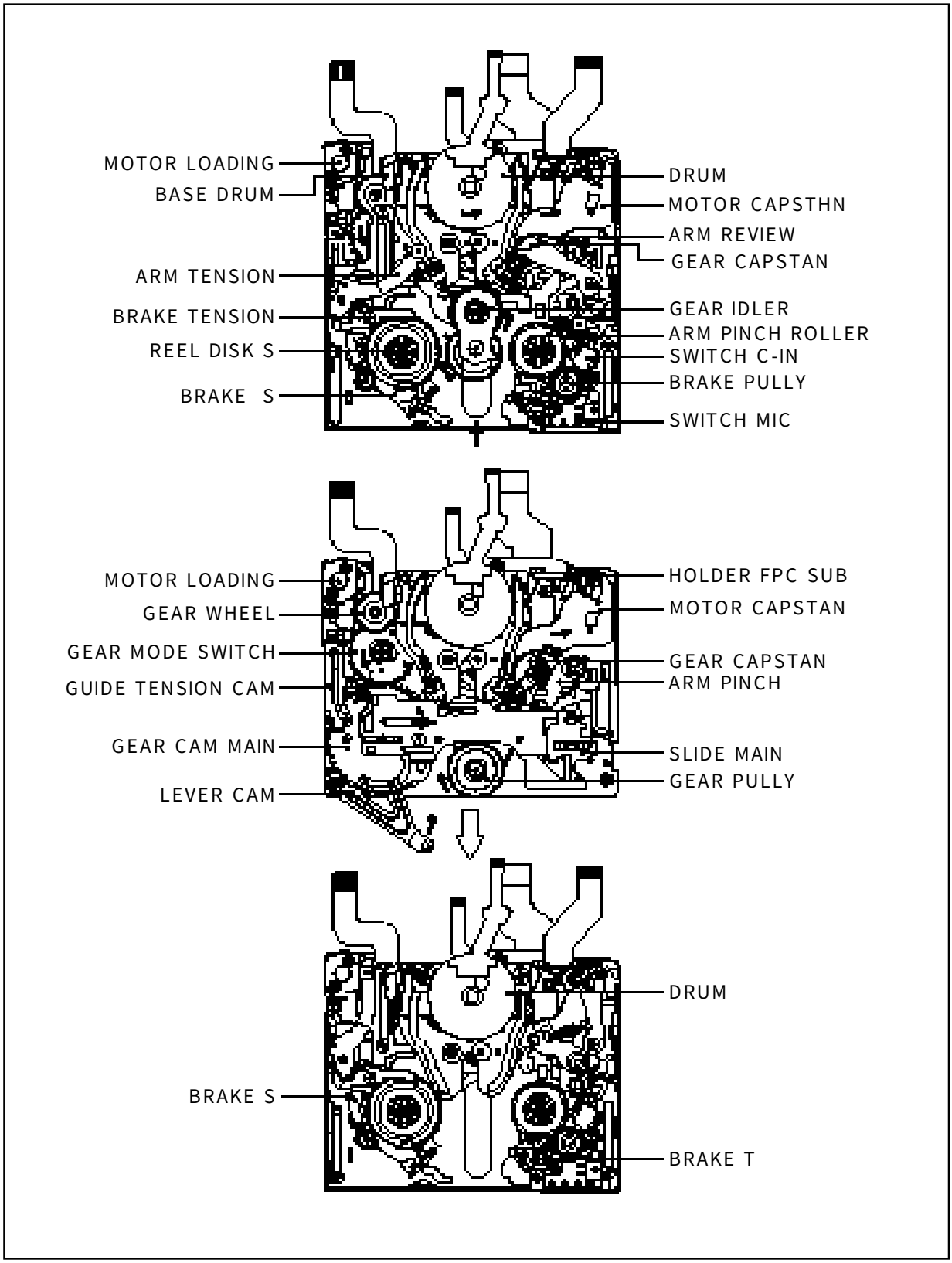
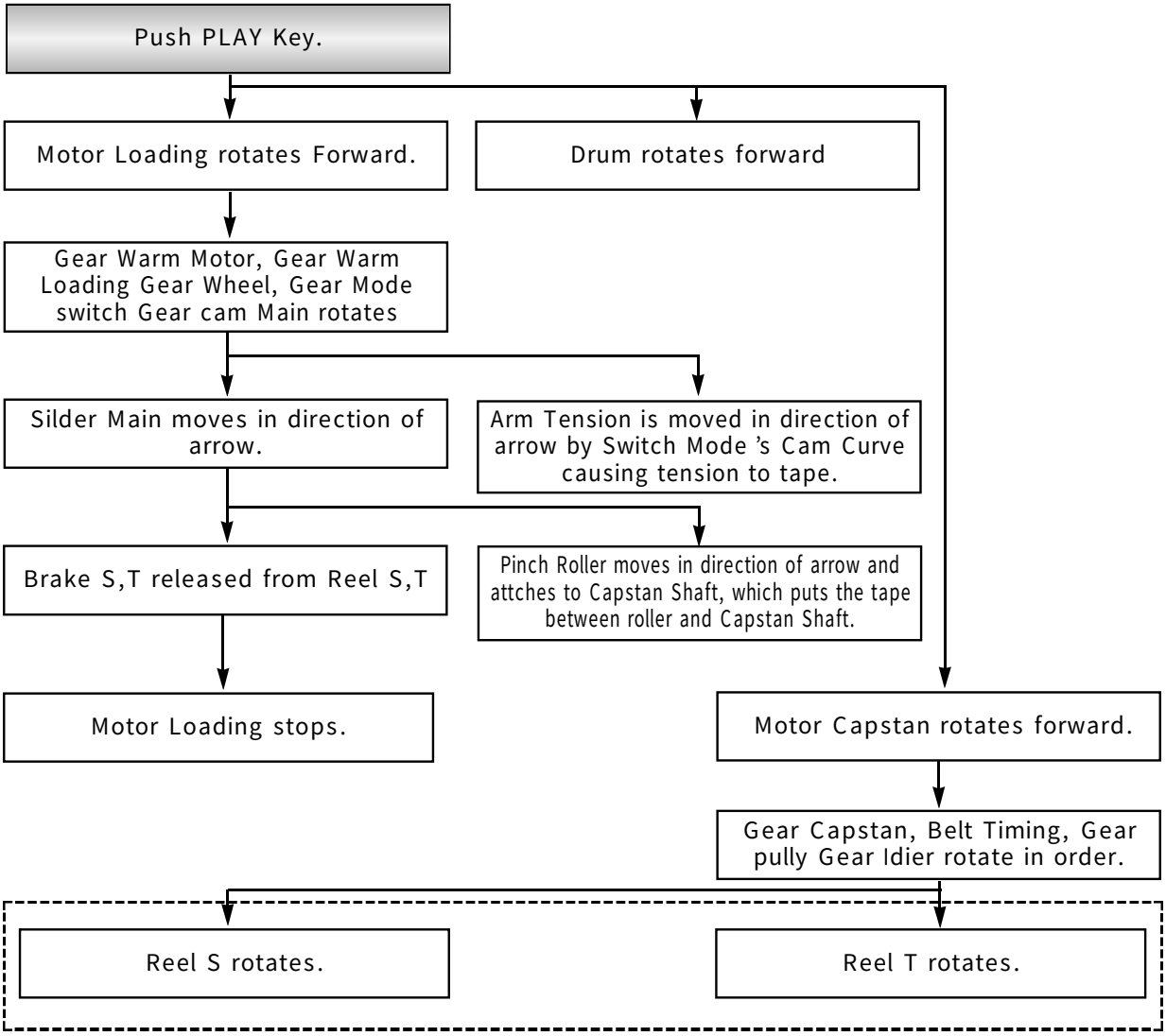

MOTOR LOADING
BASE DRUM
ARM TENSION
BRAKE TENSION
REEL DISK S
BRAKE S
DRUM
MOTOR CAPSTHN
ARM REVIEW
GEAR CAPSTAN
GEAR IDLER
ARM PINCH ROLLER
SWITCH C-IN
BRAKE PULLY
SWITCH MIC
MOTOR LOADING
GEAR WHEEL
GEAR MODE SWITCH
GUIDE TENSION CAM
GEAR CAM MAIN
LEVER CAM
HOLDER FPC SUB
MOTOR CAPSTAN
GEAR CAPSTAN
ARM PINCH
SLIDE MAIN
GEAR PULLY
BRAKE S
DRUM
BRAKE T

Fig 1-14

1-4-3 Stop → Play



*** Tape is fed by the winding operation of Motor Capstan.**

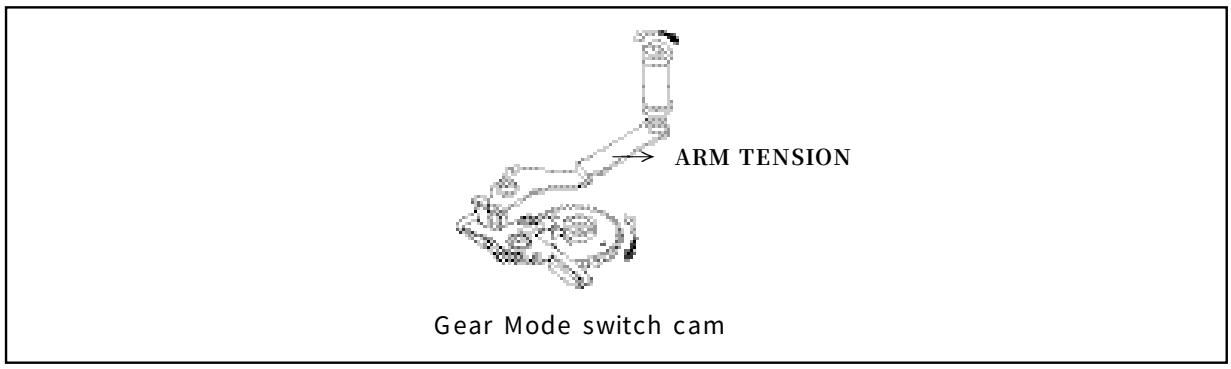


Fig 1-15

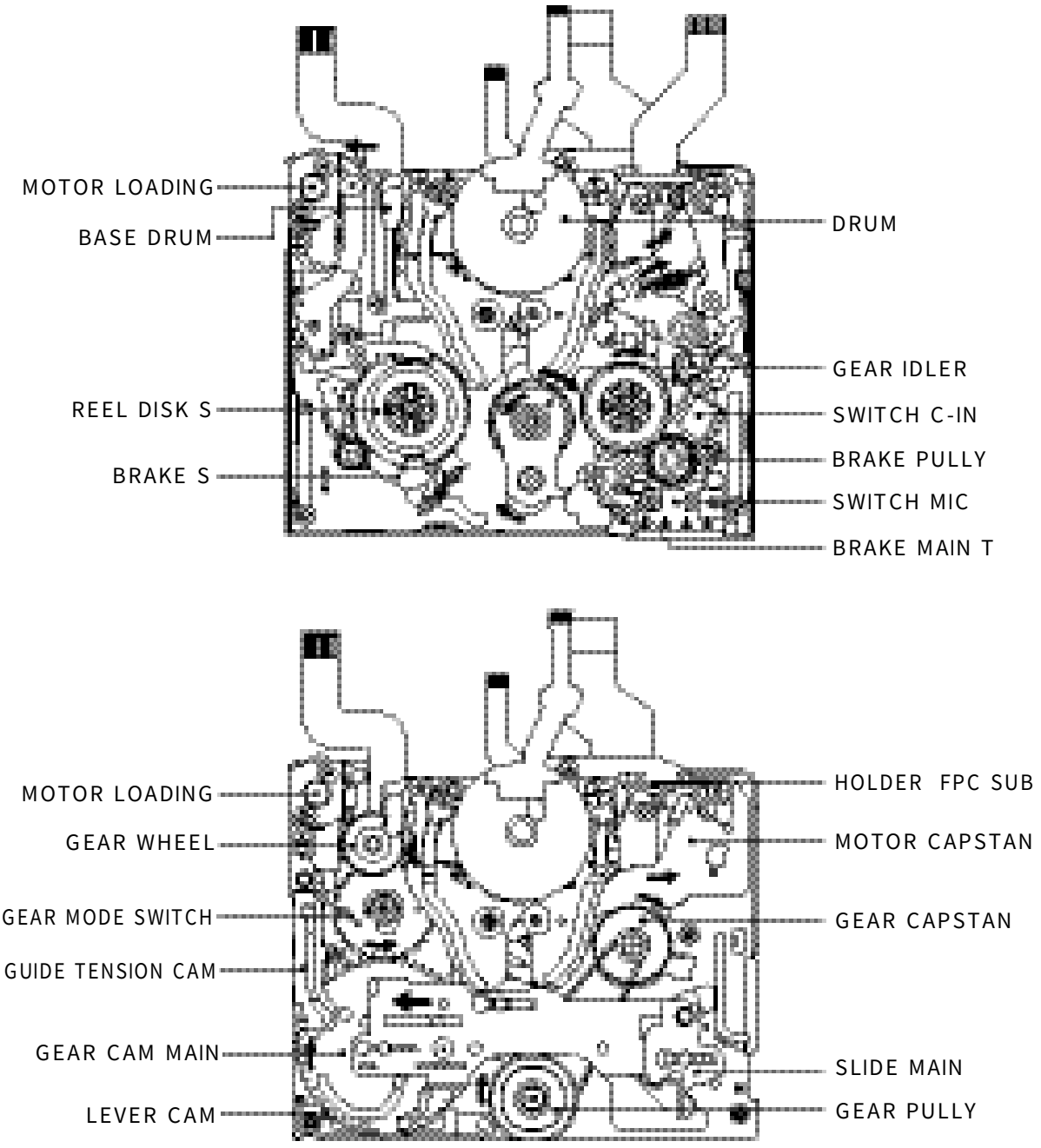
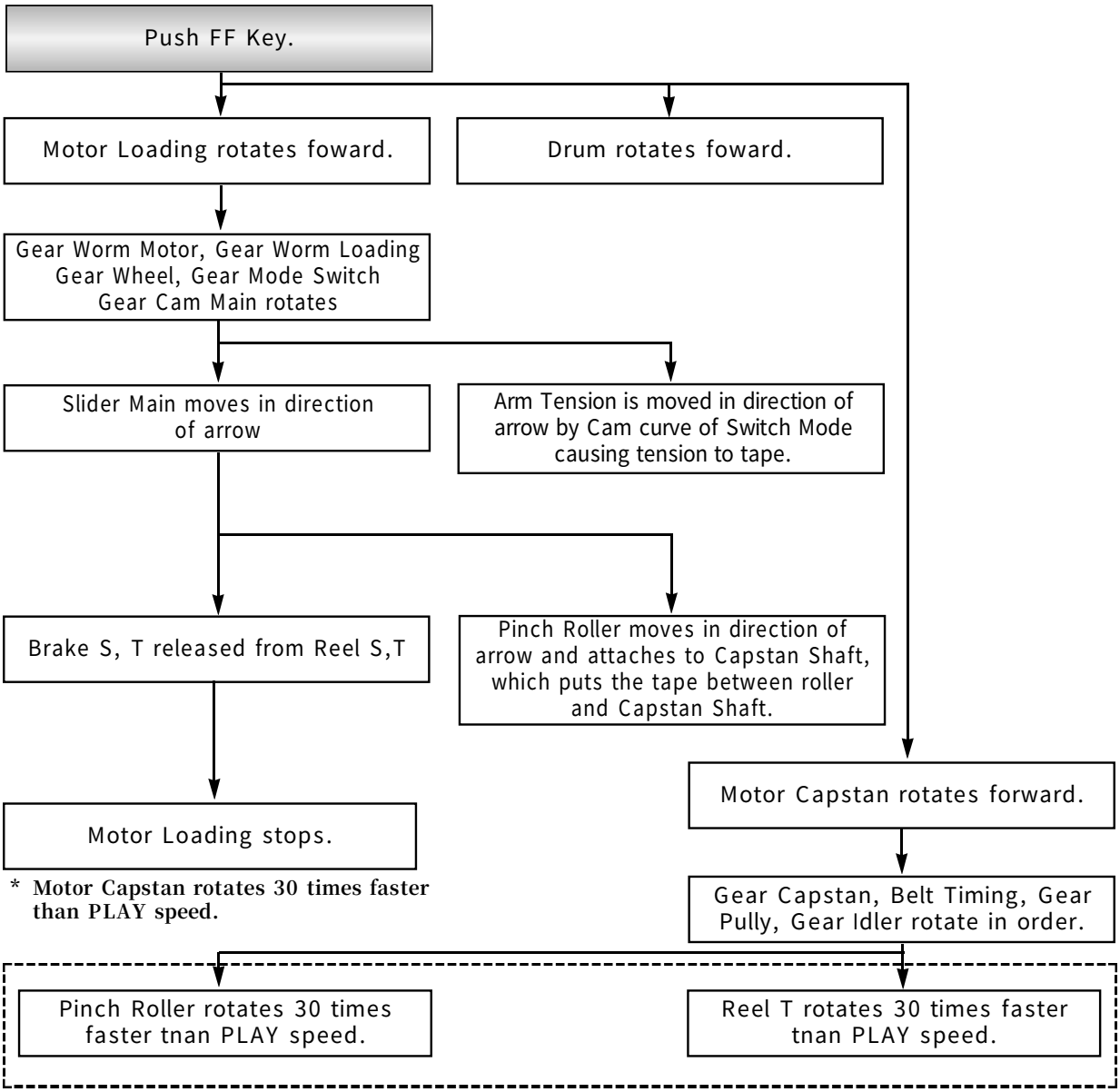

MOTOR LOADING
BASE DRUM
REEL DISK S
BRAKE S
DRUM
GEAR IDLER
SWITCH C-IN
BRAKE PULLY
SWITCH MIC
BRAKE MAIN T
MOTOR LOADING
GEAR WHEEL
GEAR MODE SWITCH
GUIDE TENSION CAM
GEAR CAM MAIN
LEVER CAM
HOLDER FPC SUB
MOTOR CAPSTAN
GEAR CAPSTAN
SLIDE MAIN
GEAR PULLY

fig 1-16

1-4-4 Stop → FF



* This operation feeds tape 30 times faster than PLAY speed.

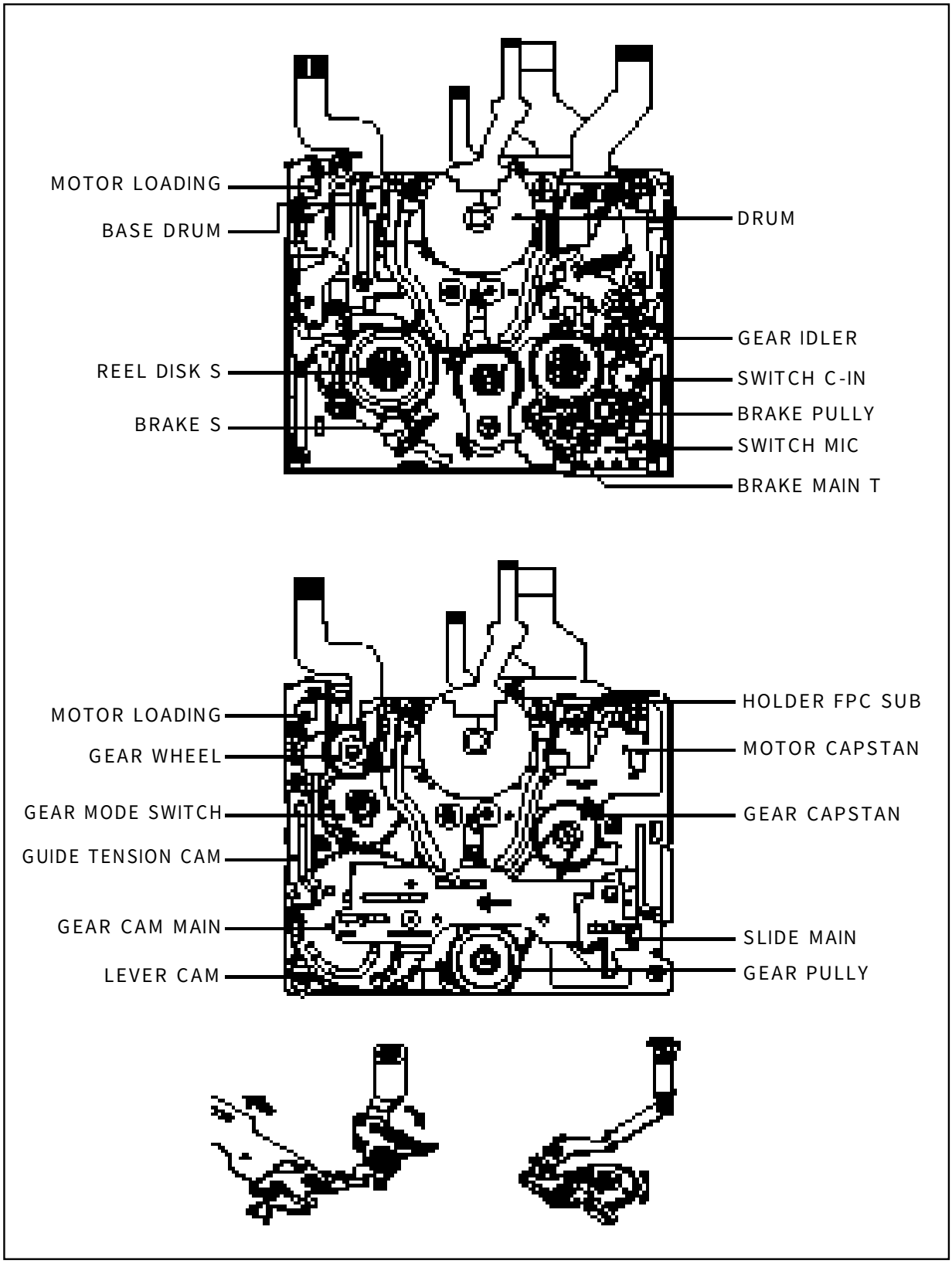
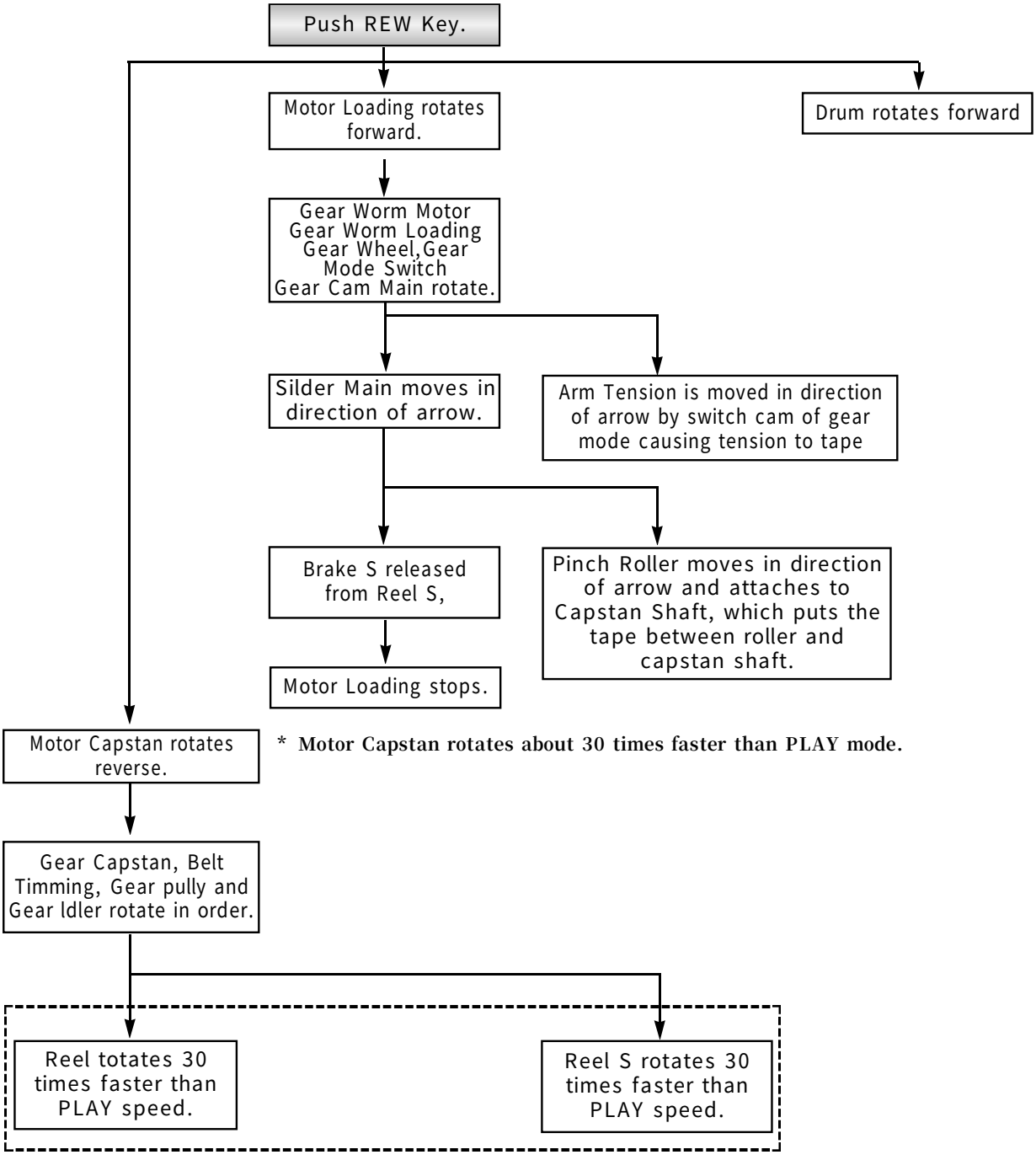

MOTOR LOADING
BASE DRUM
REEL DISK S
BRAKE S
DRUM
GEAR IDLER
SWITCH C-IN
BRAKE PULLY
SWITCH MIC
BRAKE MAIN T
MOTOR LOADING
GEAR WHEEL
GEAR MODE SWITCH
GUIDE TENSION CAM
GEAR CAM MAIN
LEVER CAM
HOLDER FPC SUB
MOTOR CAPSTAN
GEAR CAPSTAN
SLIDE MAIN
GEAR PULLY

Fig 1-17

1-4-5 Stop → REW



* This operation feeds tape 30 times faster than PLAY mode.

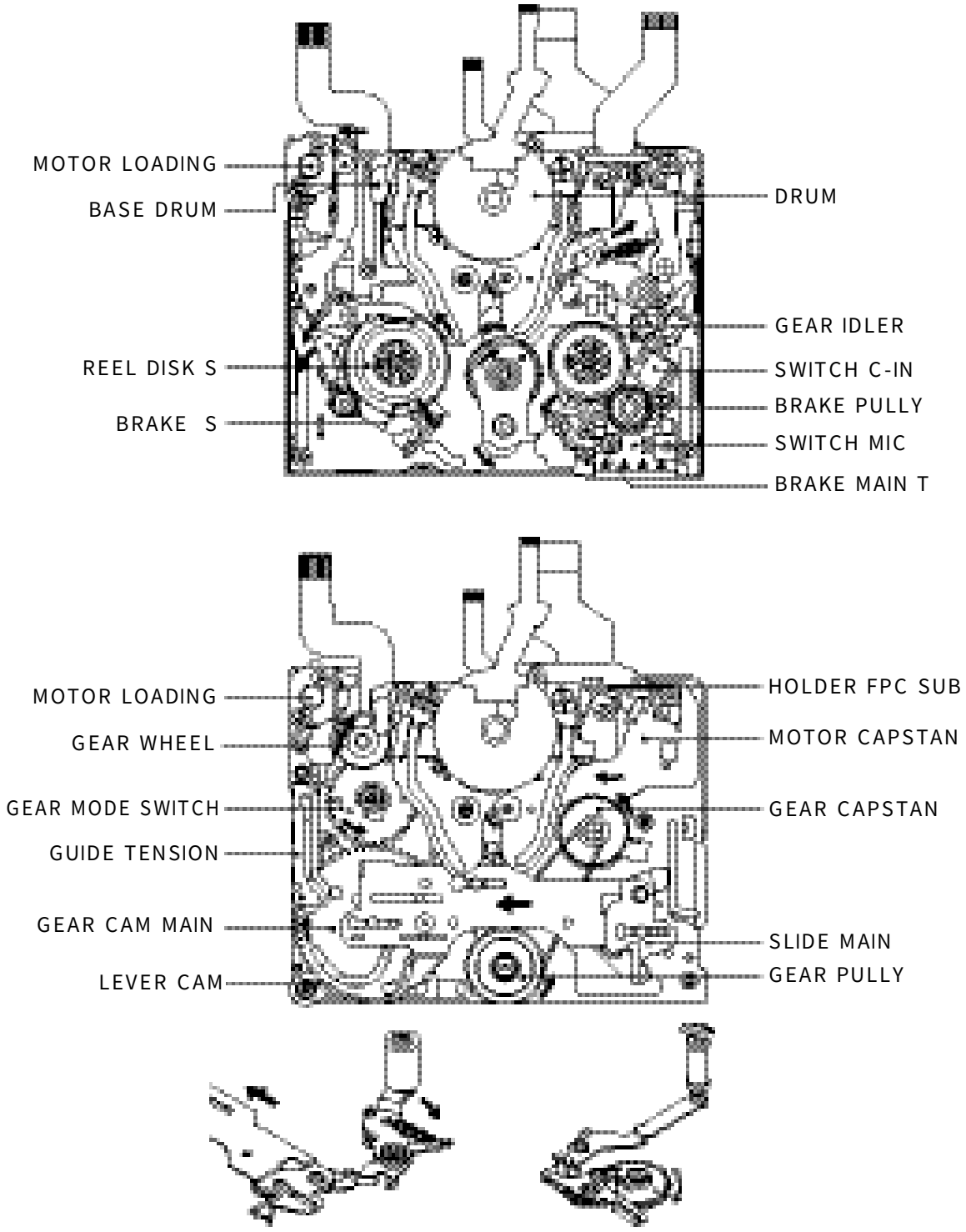
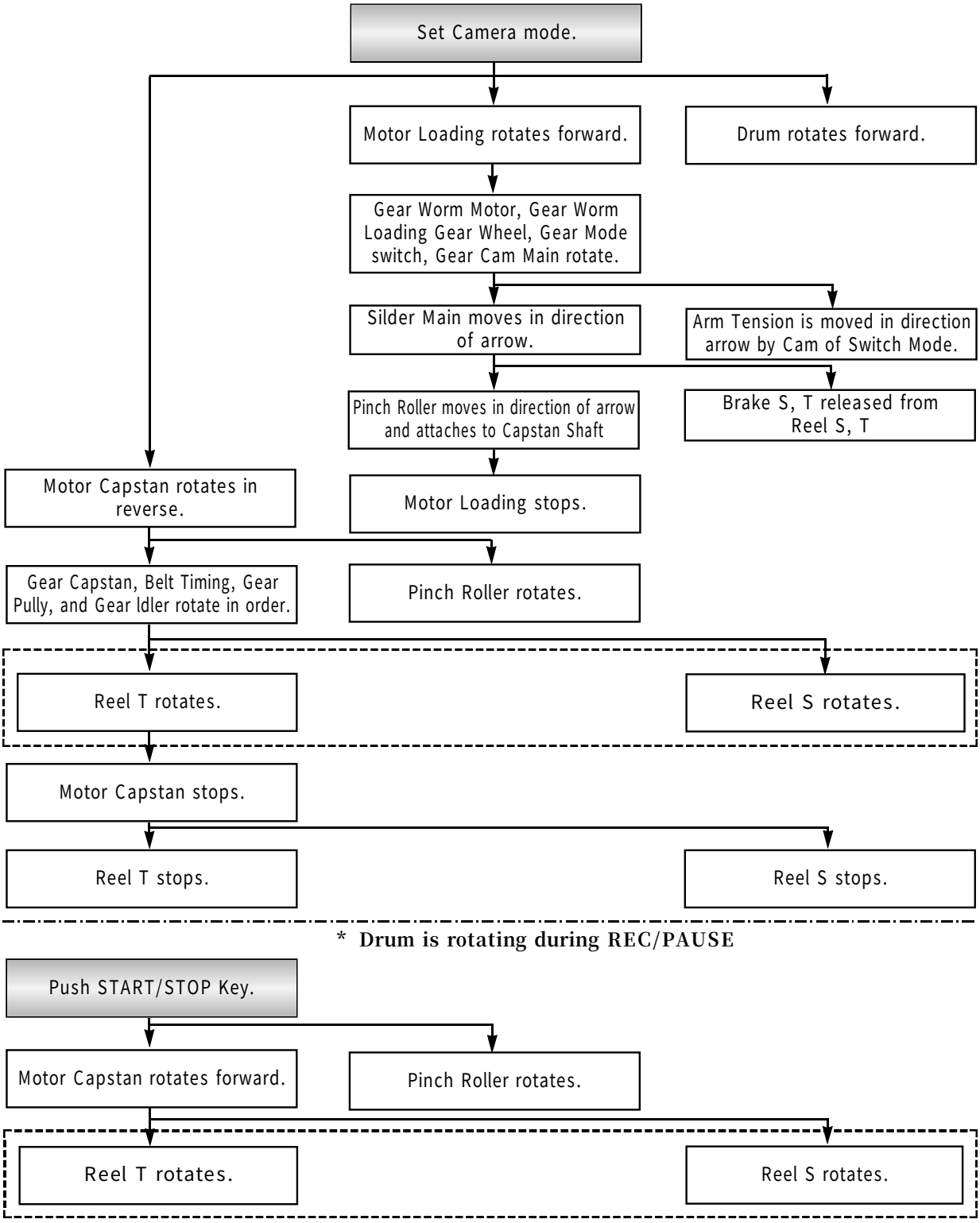

MOTOR LOADING
BASE DRUM
REEL DISK S
BRAKE S
DRUM
GEAR IDLER
SWITCH C-IN
BRAKE PULLY
SWITCH MIC
BRAKE MAIN T
MOTOR LOADING
GEAR WHEEL
GEAR MODE SWITCH
GUIDE TENSION
GEAR CAM MAIN
LEVER CAM
HOLDER FPC SUB
MOTOR CAPSTAN
GEAR CAPSTAN
SLIDE MAIN
GEAR PULLY

Fig 1-18

1-4-6 Stop → REC



*** Drum is rotating during REC/PAUSE**

*** Tape is wound to Reel T by this operation.**

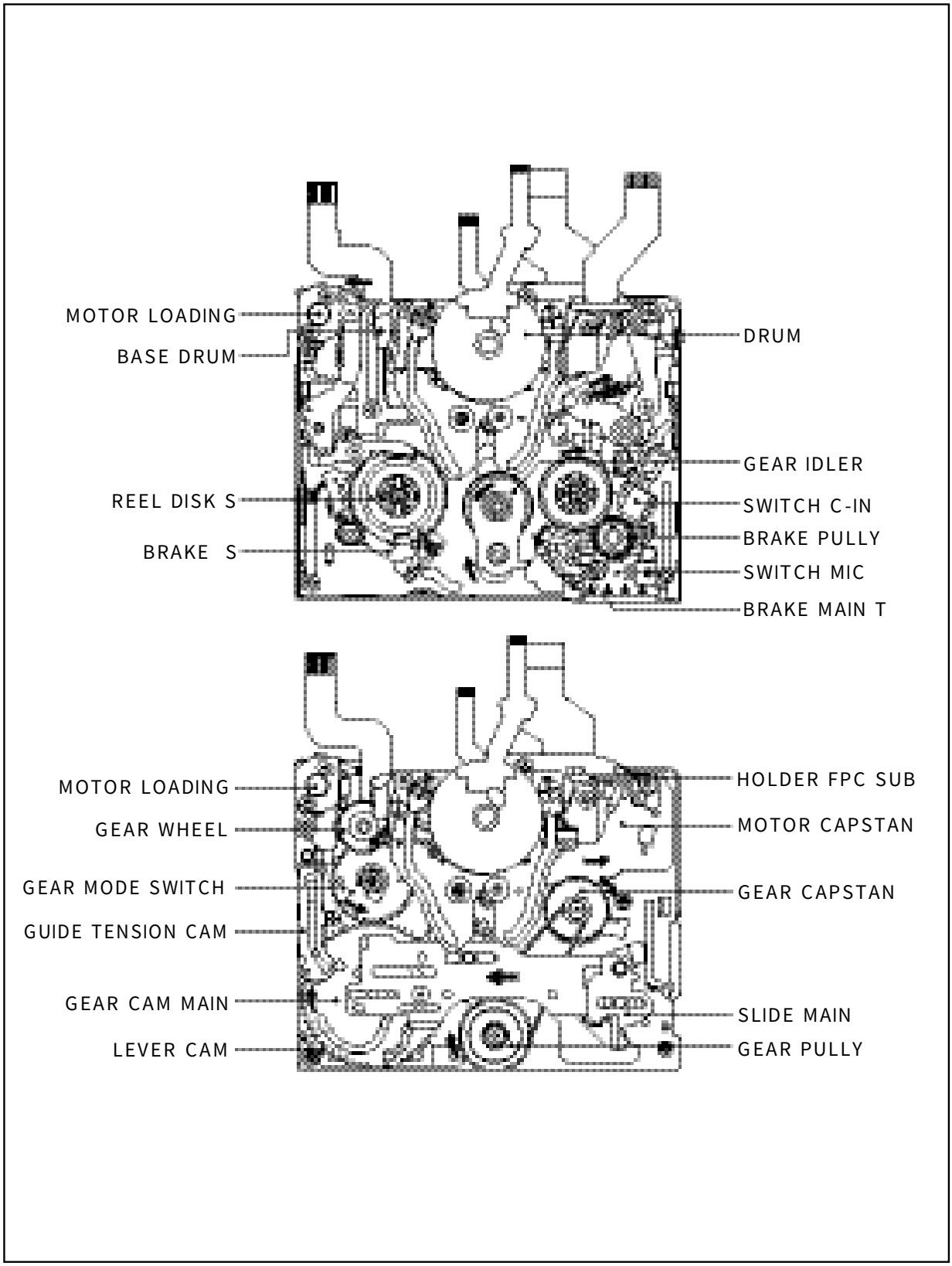
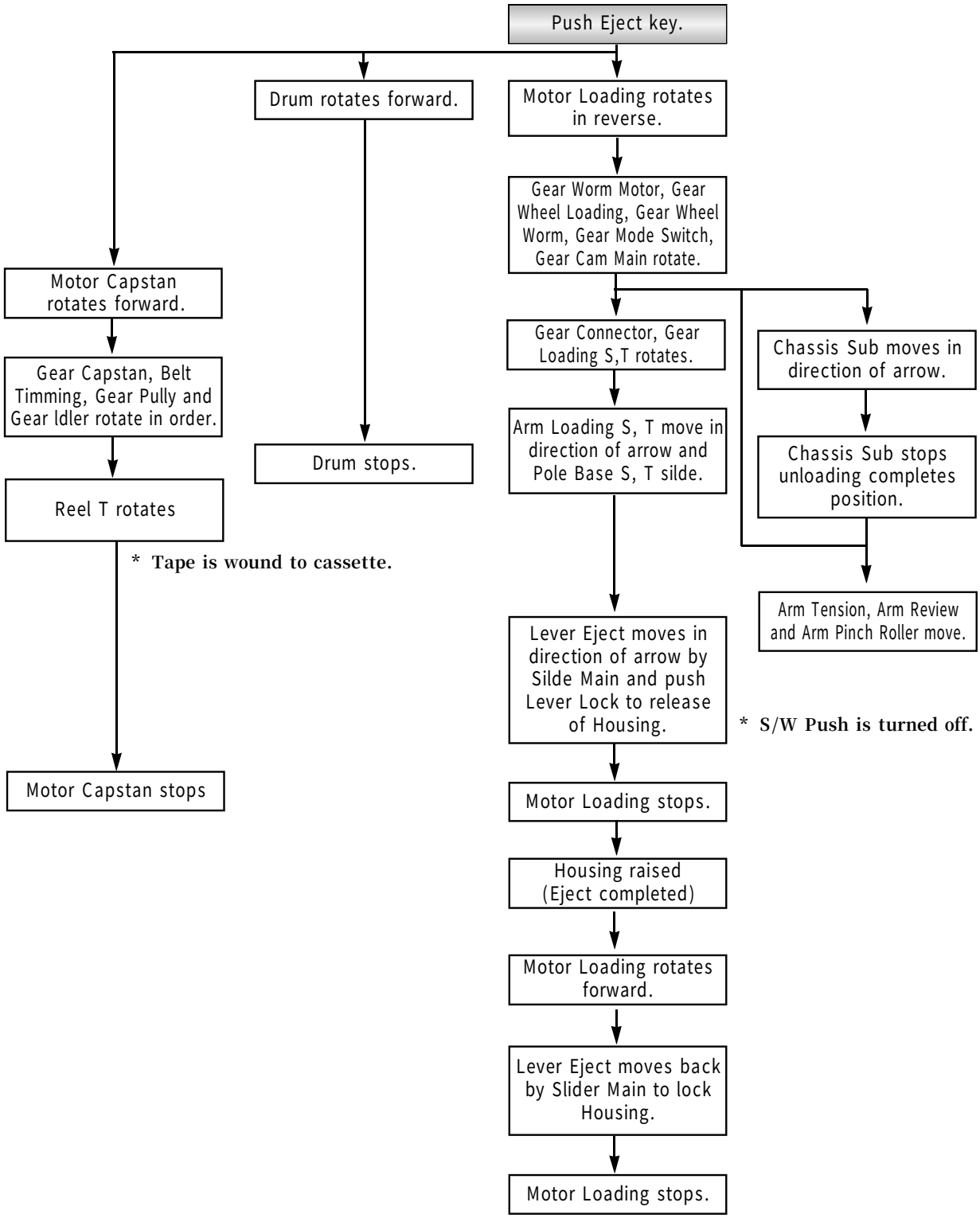

MOTOR LOADING
BASE DRUM
REEL DISK S
BRAKE S
DRUM
GEAR IDLER
SWITCH C-IN
BRAKE PULLY
SWITCH MIC
BRAKE MAIN T
MOTOR LOADING
GEAR WHEEL
GEAR MODE SWITCH
GUIDE TENSION CAM
GEAR CAM MAIN
LEVER CAM
HOLDER FPC SUB
MOTOR CAPSTAN
GEAR CAPSTAN
SLIDE MAIN
GEAR PULLY

Fig 1-19

1-4-7 Stop → Unload



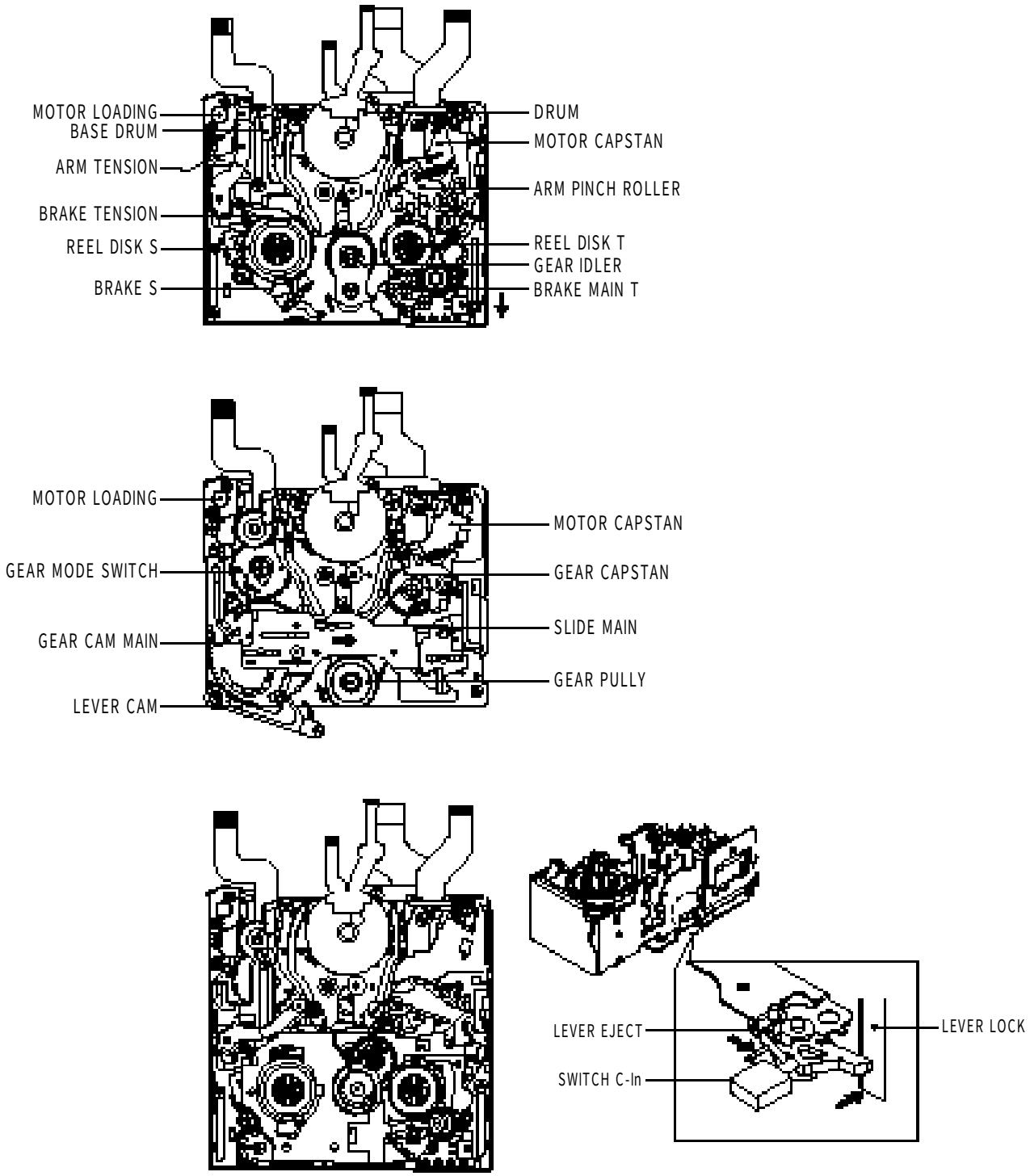
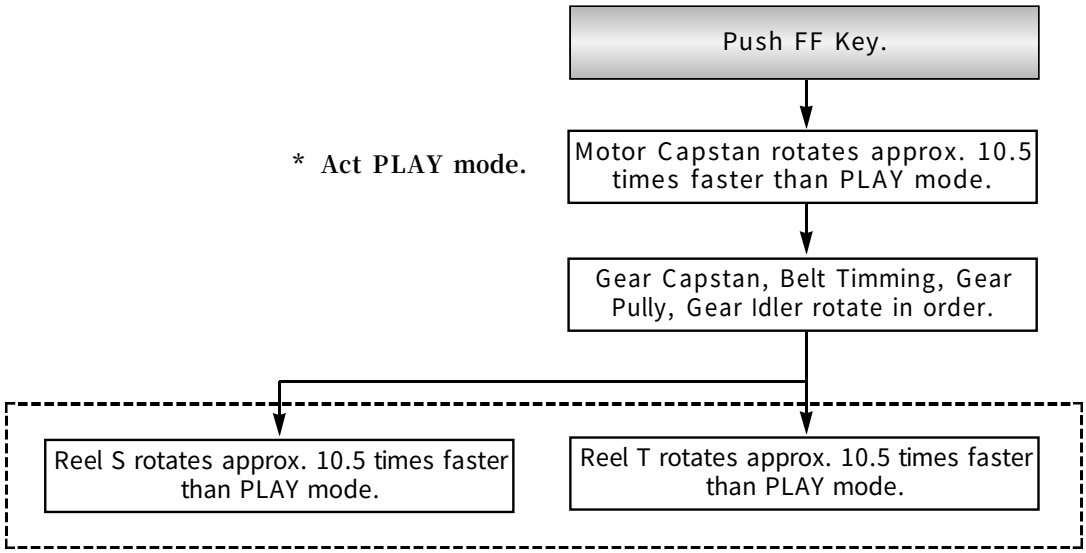

MOTOR LOADING
BASE DRUM
ARM TENSION
BRAKE TENSION
REEL DISK S
BRAKE S
DRUM
MOTOR CAPSTAN
ARM PINCH ROLLER
REEL DISK T
GEAR IDLER
BRAKE MAIN T
MOTOR LOADING
GEAR MODE SWITCH
GEAR CAM MAIN
LEVER CAM
MOTOR CAPSTAN
GEAR CAPSTAN
SLIDE MAIN
GEAR PULLY
LEVER EJECT
SWITCH C-In
LEVER LOCK

Fig 1-20

1-4-8 CUE



* Tape fed by Motor Capstan is wound up to Reel T.

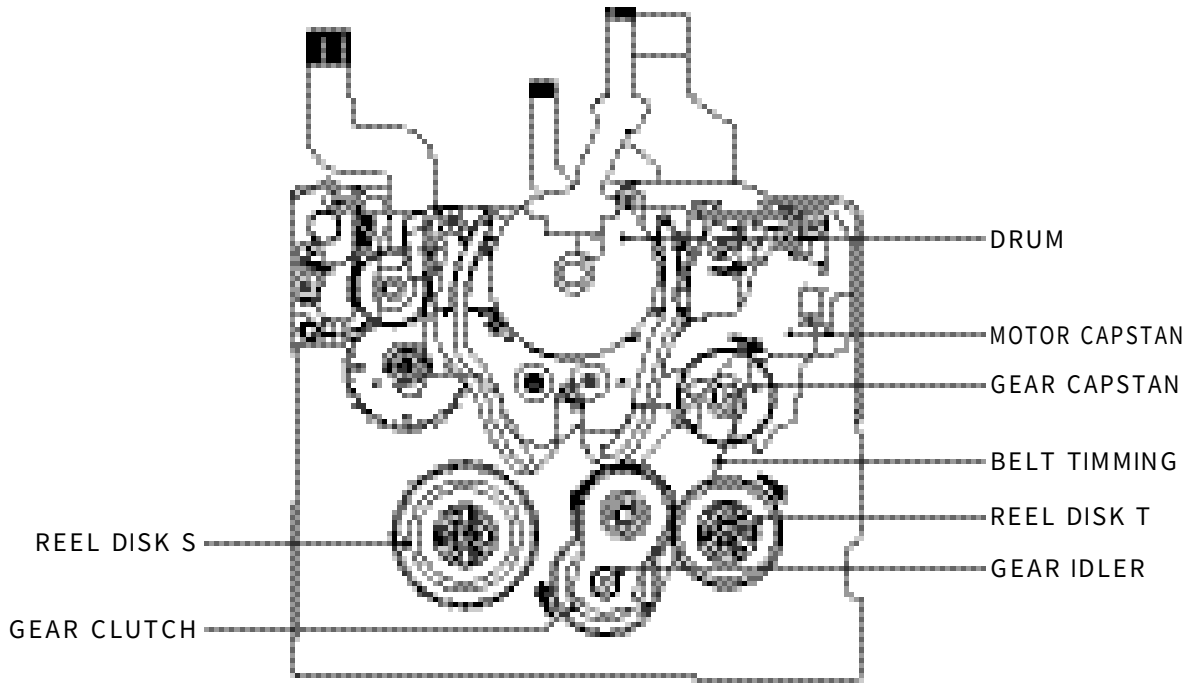
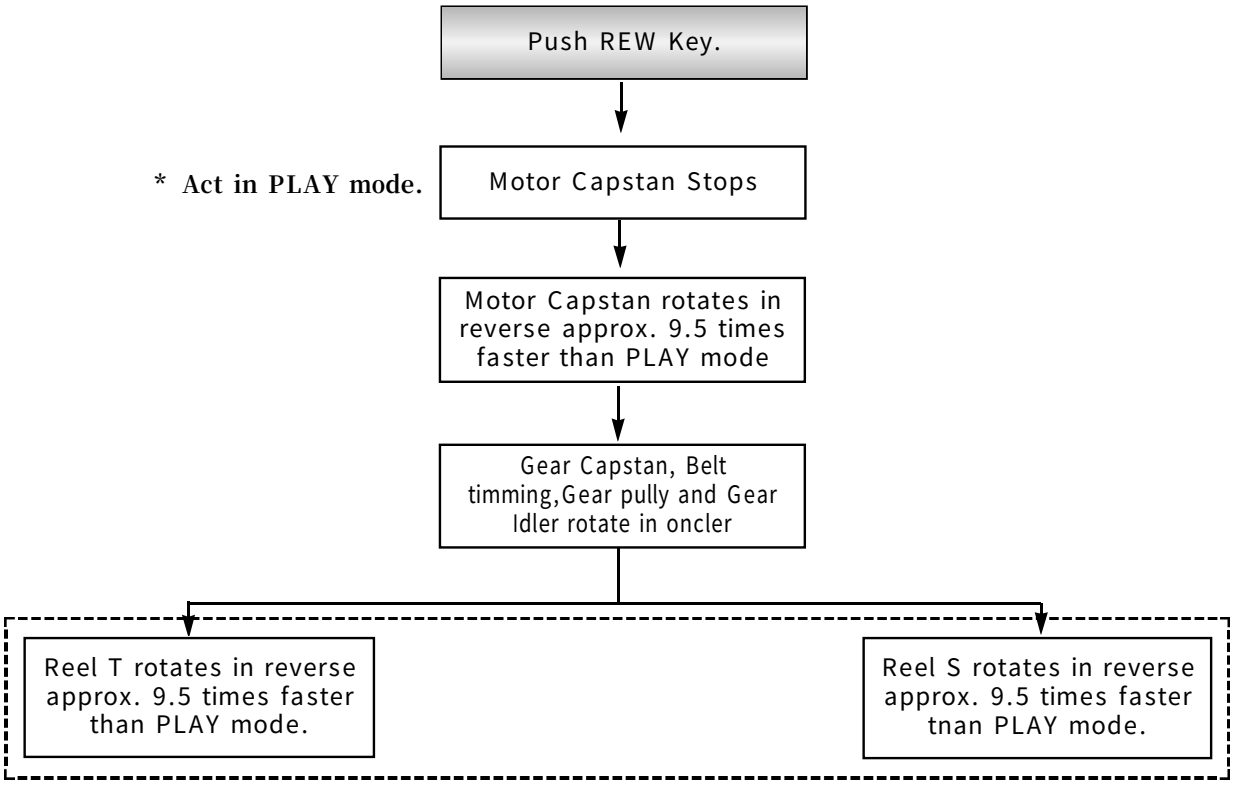

DRUM
MOTOR CAPSTAN
GEAR CAPSTAN
BELT TIMMING
REEL DISK T
GEAR IDLER
REEL DISK S
GEAR CLUTCH

Fig 1-21

1-4-9 REW



* Tape fed by Motor Capstan is wound up to Reel S.

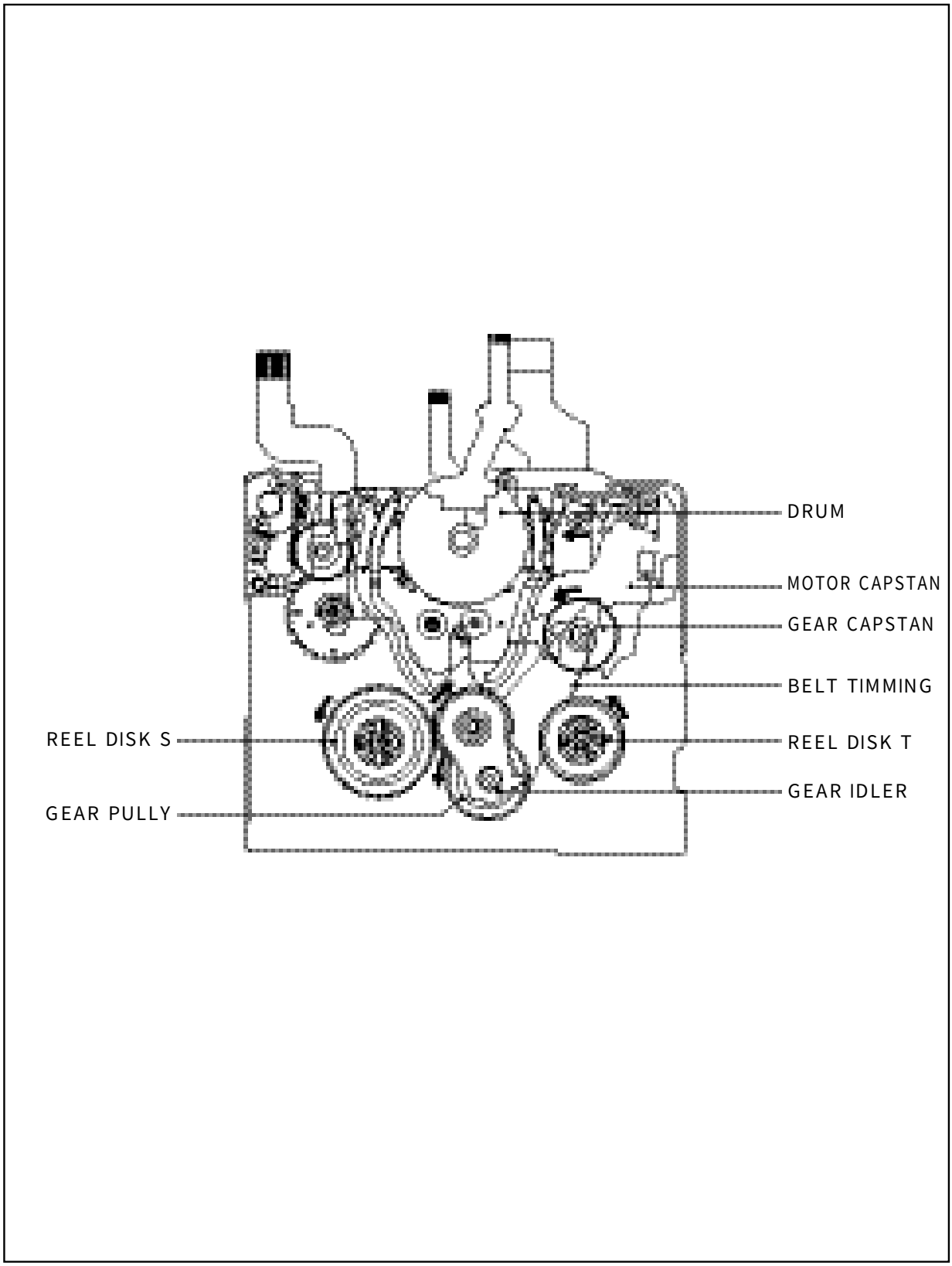

DRUM
MOTOR CAPSTAN
GEAR CAPSTAN
BELT TIMMING
REEL DISK S
REEL DISK T
GEAR IDLER
GEAR PULLY

Fig 1-22


MEMO