

# **SERVICE MANUAL**

## **16-CL**

**ELMO CO., LTD.**

Nagoya, Japan

## I N D E X

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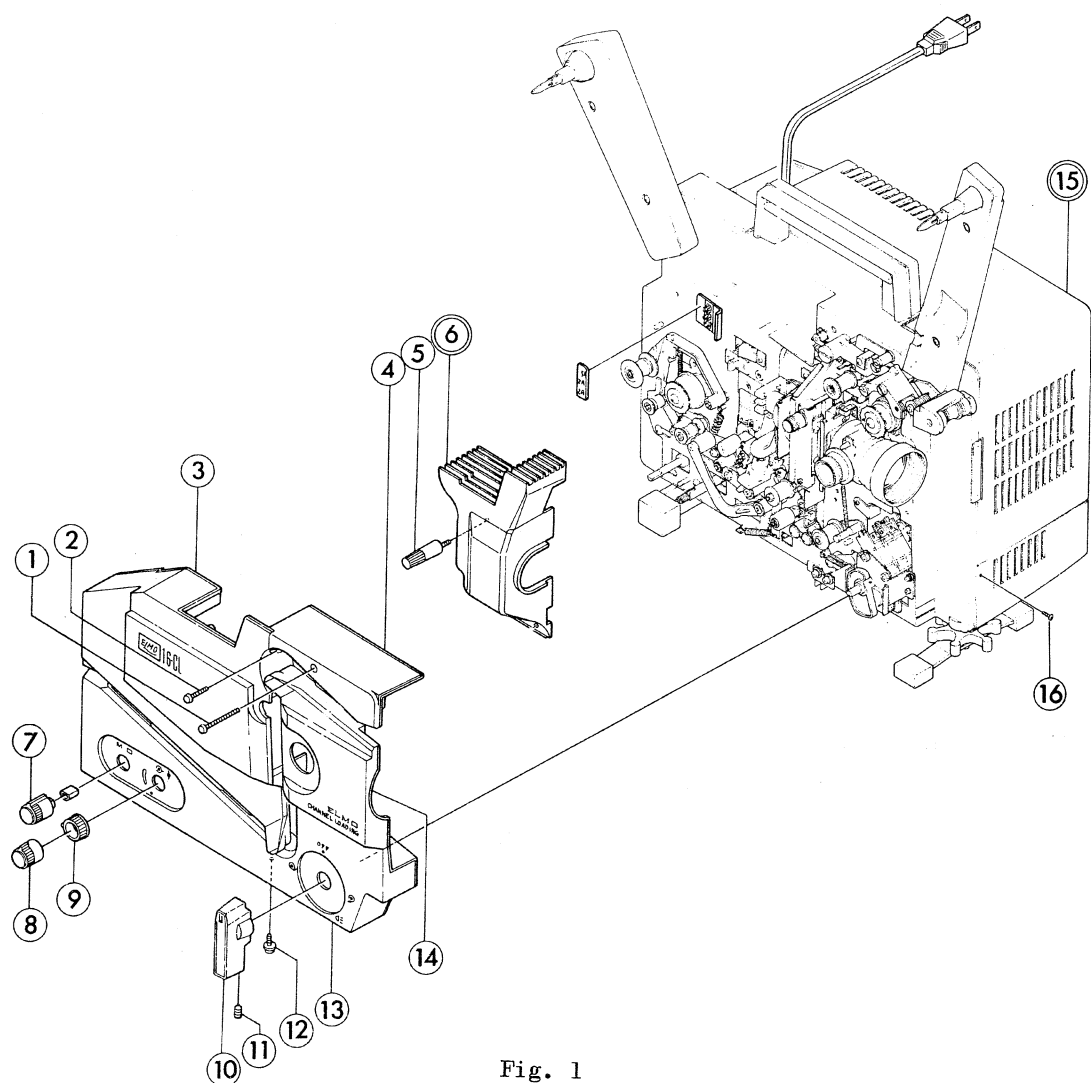


Fig. 1

| Illustration No. | Parts No.  | Parts Name       |                         |
|------------------|------------|------------------|-------------------------|
| 1                | 6M70303005 | ナベ小ネジM730-30     | Screw pan M730-30       |
| 2                | 6M70302005 | ナベ小ネジM730-20     | Screw pan M730-20       |
| 3                | 4P10322    | 前カバー(3)          | Front cover 3           |
| 4                | 4P20571    | 前カバー(4)          | Front cover 4           |
| 5                | P412318    | ツマミネジ遮光筒         | Knob lamp house         |
| 6                | 4P8CL0030  | 遮熱筒組立品           | Lamp house assy         |
| 7                | P412228    | ツマミO-M切換         | Knob M-O switch         |
| 8                | P412230    | 二重ツマミ(2)アンプ      | Knob amplifier 2        |
| 9                | P412229    | 二重ツマミ(1)アンプ      | Knob amplifier 1        |
| 10               | P412227    | ツマミメイン           | Knob main               |
| 11               | 6MT4500805 | 六角穴止メネジ M50-8    | Set screw hexagon M50-8 |
| 12               | 6M7B300801 | ナベ小ネジセムスB M730-8 | Screw sems-B M730-8     |
| 13               | 4P20569    | 前カバー(1)          | Front cover 1           |
| 14               | 4P20570    | 前カバー(2)          | Front cover 2           |
| 15               | 4P8CL0003  | 裏カバー組立品          | Rear cover assy         |
| 16               | 6M60300605 | トラス小ネジ M630-6    | Screw truss M630-6      |

## I. DISASSEMBLY & ASSEMBLY

### A. COVER

#### 1. Disassembly

- (1) Pull out Fig. 1-14,3 by hand.
- (2) Remove Fig. 1-4 by detaching Fig. 1-1,2.
- (3) Remove Fig. 1-13 in the following order.
  - \* Remove Fig. 1-10 by loosening Fig. 1-11.
  - \* Pull out Fig. 1-7,8,9 towards you.
  - \* Remove Fig. 1-13 by detaching Fig. 1-12x3.
- (4) Remove Fig. 1-15 by detaching Fig. 1-16x4.
- (5) Remove Fig. 1-6 by loosening Fig. 1-5 after Fig. 1-3 is detached.

#### 2. Assembly

Follow the reverse way of the above steps.



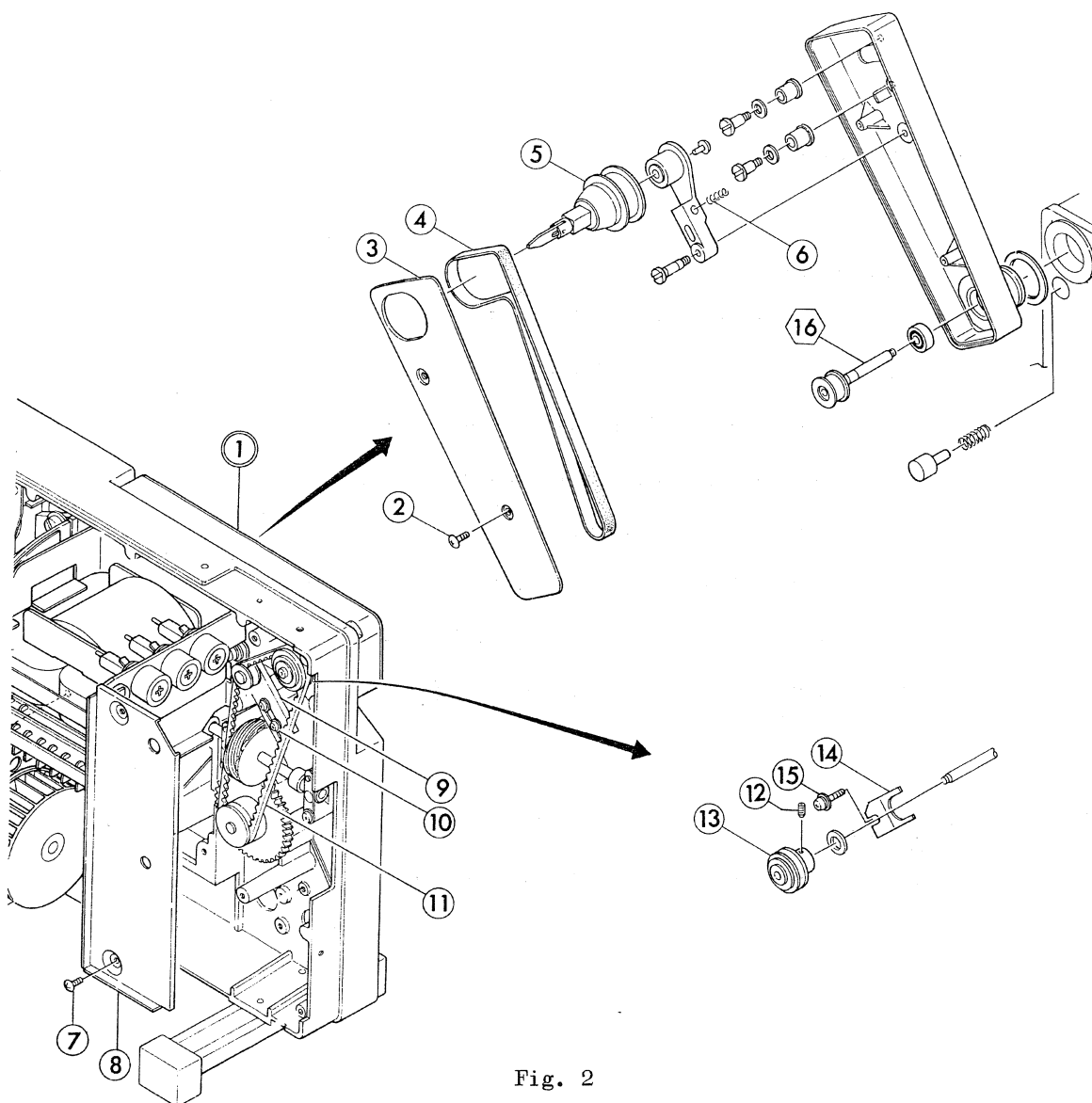


Fig. 2

| Illustration No. | Parts No.  | Parts Name        |                           |
|------------------|------------|-------------------|---------------------------|
| 1                | 4P8CL0007  | 巻取アーム組立品          | Take-up arm assy          |
| 2                | 6M60300605 | トラス小ネジ M630-6     | Screw truss M630-6        |
| 3                | 4P20576    | アーム(2)巻取          | Arm(2) take-up            |
| 4                | P412289    | ベルト巻取アーム          | Belt take-up arm          |
| 5                | 4P8CL0038  | 巻取角棒シャフト組立品       | Take-up square shaft assy |
| 6                | 4P55578    | 制動バネ巻取            | Brake spring take-up      |
| 7                | 6M60300605 | トラス小ネジ M630-6     | Screw truss M630-6        |
| 8                | P412190    | アテ板裏カバー           | Rear cover plate          |
| 9                | P412127    | Vベルトガイドローラ組立品     | V belt guide roller assy  |
| 10               | 6M7B300801 | ナベ小ネジセムスB M730-8  | Screw sems-B M730-8       |
| 11               | P412203    | Vベルト巻取            | V belt take-up            |
| 12               | 6MT4400605 | 六角穴止メネジ M40-6     | Set screw hexagon M40-6   |
| 13               | P412170    | Vプーリ(2)巻取         | V pulley (2) take-up      |
| 14               | P412156    | ロックバネボスアーム        | Lock spring boss arm      |
| 15               | 6M7B401001 | ナベ小ネジセムスB M740-10 | Screw sems-B M740-10      |
| 16               | P412441    | 組立軸巻取             | Shaft take-up assy        |

## B. TAKE-UP REEL ARM

### 1. Disassembly

- (1) Remove Fig. 2-3 by detaching Fig. 2-2x2.
- (2) Remove Fig. 2-4 by pushing Fig. 2-5 to the right direction.
- (3) Remove Fig. 2-1 in the following order:
  - \* Remove Fig. 1-15.
  - \* Remove Fig. 2-8 by detaching Fig. 2-7x2.
  - \* Remove Fig. 2-11 by loosening Fig. 2-10x2.
  - \* Remove Fig. 2-13 by loosening Fig. 2-12x2.
  - \* Remove Fig. 2-14 by detaching Fig. 2-15.

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following points.

- (1) Adjust the tension of Fig. 2-11 by moving Fig. 2-9.
- (2) Check the tension of Fig. 2-4, and adjust it by changing the tension of Fig. 2-6, if necessary. (Refer to S-1)

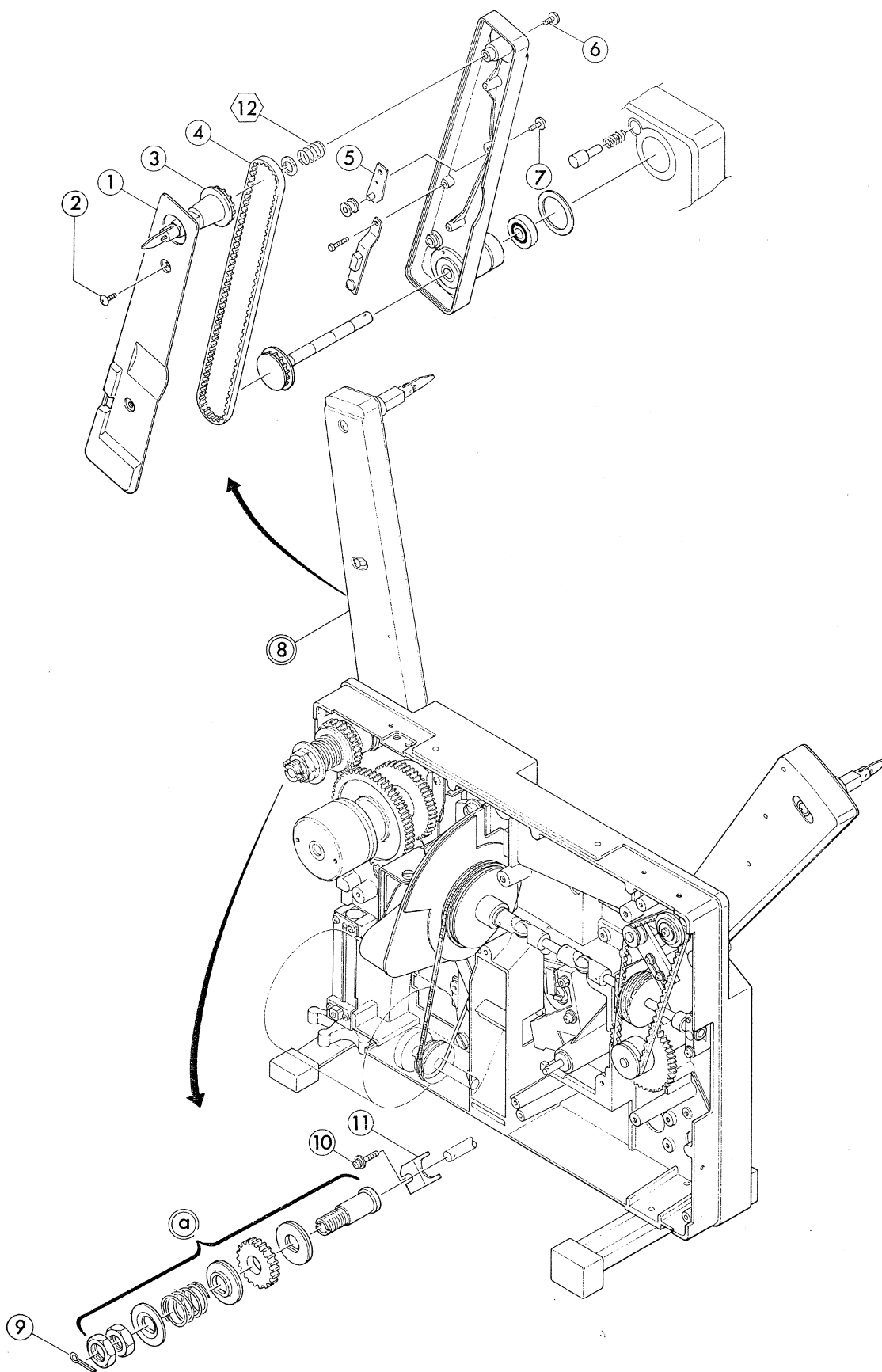


Fig. 3

## C. FEED REEL ARM

### 1. Disassembly

- (1) Remove Fig. 1-14 and set Fig. 1-10 at "9" position.
- (2) Remove Fig. 3-1 by detaching Fig. 3-2x2.
- (3) Remove Fig. 3-4 by detaching Fig. 3-6,3.
- (4) Remove Fig. 3-8 in the following order:
  - \* Remove Fig. 1-15 and set Fig. 1-10 at "9" position.
  - \* Remove (a) in Fig. 3 together by detaching Fig. 3-9.
  - \* Remove Fig. 3-11 by detaching Fig. 3-10.

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following point.

- (1) Check the tension of Fig. 3-4, and adjust it by changing the position of Fig. 3-5, if necessary.
  - \* Loaded film should not hang down beyond the projection lens during projection and when projection is stopped.
  - \* The belt should not slip during rewinding.

| Illustration No. | Parts No.  | Parts Name        |                          |
|------------------|------------|-------------------|--------------------------|
| 1                | 4P20575    | アーム(2)巻返          | Arm (2) rewind           |
| 2                | 6M60300605 | トラス小ネジ M630-6     | Screw truss M630-6       |
| 3                | 4P8CL0039  | 巻返角棒シャフト組立品       | Rewind square shaft assy |
| 4                | 6VS206XL16 | シンクロベルト206XL016G  | Synchronous belt 206     |
| 5                | P412384    | 組立アームガイドローラ巻返     | Guide roller rewind assy |
| 6                | 4P47107    | ネジランプソケットホルダ      | Lamp socket holder screw |
| 7                | 6M60300401 | トラス小ネジ M630-4     | Screw truss M630-4       |
| 8                | 4P8CL0004  | 巻返アーム組立品          | Rewind arm assy          |
| 9                | 6J1251801  | ワリピン2.5-18        | Split pin 2.5-18         |
| 10               | 6M7B401001 | ナベ小ネジセムスB M740-10 | Screw sems-B M740-10     |
| 11               | P412156    | ロックバネボスアーム        | Lock spring boss arm     |
| 12               | 4P55623    | 制動バネ巻返            | Brake spring rewind      |

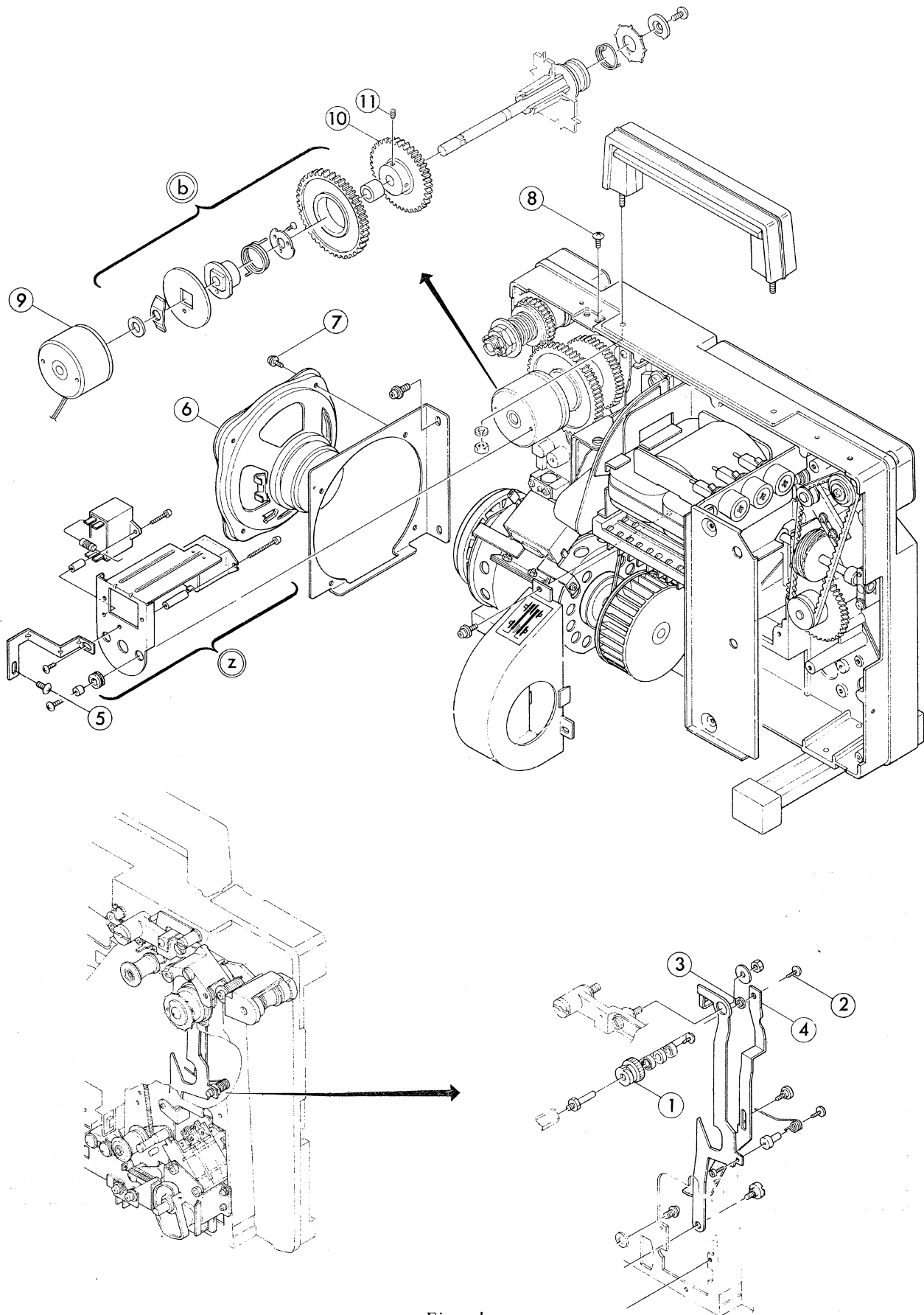


Fig. 4

#### D. REWINDING MECHANISM

##### 1. Disassembly

- (1) Set Fig. 1-10 at "OFF" position.
- (2) Remove Fig. 4-9, (z) by detaching Fig. 4-8x2,5.
- (3) Remove Fig. 4-6 by detaching Fig. 4-7x4.
- (4) Remove Fig. 4-9 by loosening 2 rotor attaching screws of Fig. 4-9 and remove (b) in Fig. 4 together.
- (5) After Fig. 4-2,3 are detached, remove Fig. 4-10 by loosening Fig. 4-11x2.

##### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following points.

- (1) After Fig. 4-2,3 are attached, check the movement of Fig. 4-1,4, connecting the power cord to power source.
- (2) After the assembly is completed, adjust the gap between clutch plate and rotor of Fig. 4-9 and movement of clutch of Fig. 4-9. (Refer to T-2)
- (3) The terminal of Fig. 4-6 should be at the side of Fig. 1-15.
- (4) Fig. 4-9 should be always replaced as a unit.

| Illustration No. | Parts No.  | Parts Name       |                         |
|------------------|------------|------------------|-------------------------|
| 1                | P412237    | 摩擦車(2)ループセッタ     | Friction wheel 2        |
| 2                | 6M60250401 | トラス小ネジ M625-4    | Screw truss M625-4      |
| 3                | 4P55616    | 間座摩擦車            | Washer friction wheel   |
| 4                | 4P31849    | リンク(1)ループセッタ     | Link (1) loop setter    |
| 5                | 6M60300401 | トラス小ネジ M630-4    | Screw truss M630-4      |
| 6                | 5V1009     | スピーカ8Ω           | Speaker 8Ω              |
| 7                | 6M7B400801 | ナベ小ネジセムスB M740-8 | Screw sems-B M740-8     |
| 8                | 6M60300401 | トラス小ネジ M630-4    | Screw truss M630-4      |
| 9                | 6Z0052     | 電磁クラッチ           | Magnet clutch           |
| 10               | P412270    | ウォームギヤ(1)組立品     | Worm gear (1) assy      |
| 11               | 6MT4400805 | 六角穴止メネジ M40-8    | Set screw hexagon M40-8 |

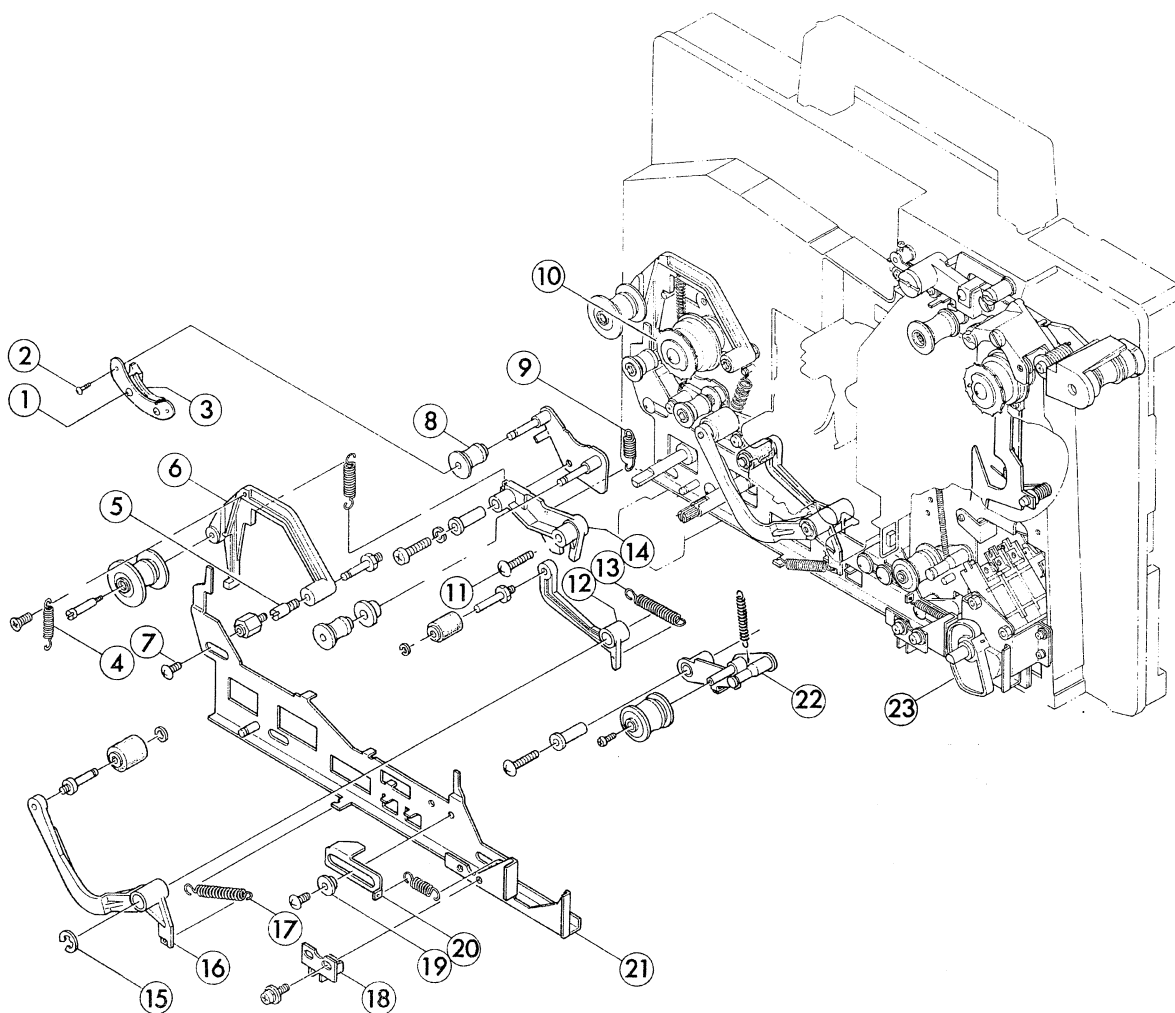


Fig. 5

| Illustration No. | Parts No.  | Parts Name         |                           |
|------------------|------------|--------------------|---------------------------|
| 1                | 6M60200501 | トラス小ネジ M620-5      | Screw truss M620-5        |
| 2                | 6M60200501 | トラス小ネジ M620-5      | Screw truss M620-5        |
| 3                | P412367    | シュー第2スプロケット        | Shoe second sprocket      |
| 4                | 4P55661    | バネレバーガイドローラ(4)     | Spring guide roller 4     |
| 5                | 4P55662    | ストップ軸前カバー(3)       | Stopper shaft 3           |
| 6                | P412051    | レバーガイドローラ(4)       | Lever guide roller 4      |
| 7                | 6M60400601 | トラス小ネジ M640-6      | Screw truss M640-6        |
| 8                | P412221    | ローラ第2スプロケット押エ      | Roller second sprocket    |
| 9                | 4P55573    | バネレバー(1)第2スプロケット押エ | Spring second sprocket    |
| 10               | 4P44463    | 16mmスプロケット         | Sprocket                  |
| 11               | 6M60402001 | トラス小ネジ M640-20     | Screw truss M640-20       |
| 12               | P412057    | レバープレッシャーローラ       | Lever pressure roller     |
| 13               | 4P55551    | バネプレッシャーローラ        | Spring pressure roller    |
| 14               | P412059    | レバー(1)第2スプロケット押エ   | Lever (1) second sprocket |
| 15               | 6QEA0060   | EリングER-6           | E-ring ER-6               |

## E. MACHINE FRAME - LINK

### 1. Disassembly

- (1) Set Fig. 1-10 at "●" position.
- (2) Remove Fig. 1-3,13,14 and attach Fig. 1-10.
- (3) Remove Fig. 5-6 by detaching Fig. 5-4,5.
- (4) Remove Fig. 5-14 by detaching Fig. 5-4,9,11.
- (5) Remove Fig. 5-16 by detaching Fig. 5-15,17.
- (6) Remove Fig. 5-21 by detaching Fig. 5-7x3.
- (7) Remove Fig. 5-12 by detaching Fig. 5-13.
- (8) Remove Fig. 5-8 by detaching Fig. 5-2x2.  
Do not loose Fig. 5-1x2.

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following points.

- (1) After the assembly is completed, check the movement of levers which are interlocked with Fig. 5-21.
- (2) Adjust the position of Fig. 5-3 so that the space between Fig. 5-3 and 10 comes to the thickness of three laminated films.
- (3) When Fig. 5-13 is removed or replaced, check and adjust the related movement of Fig. 5-21,18 and 23 by moving Fig. 5-18.  
(Refer to U-1)
- (4) When Fig. 5-20 is removed or replaced, check and adjust the related movement of Fig. 5-20 and 22 by turning Fig. 5-19x2.  
(Refer to V-1)

|    |         |                 |                       |
|----|---------|-----------------|-----------------------|
| 16 | P412058 | レバー中間テンション      | Lever middle tension  |
| 17 | 4P55608 | バネ中間テンションローラ    | Spring tension roller |
| 18 | P412166 | ホルダリンク(3)       | Holder link 3         |
| 19 | 4P55575 | 間座押エ板ガイドローラ(3)  | Washer guide roller 3 |
| 20 | P412206 | 押エ板レバーガイドローラ(3) | Plate guide roller 3  |
| 21 | 4P31836 | 連桿(1)           | Link 1                |
| 22 | P412179 | レバー組立ガイドローラ(3)  | Lever guide roller 3  |
| 23 | P412173 | カム連桿(1)         | Cam link 1            |



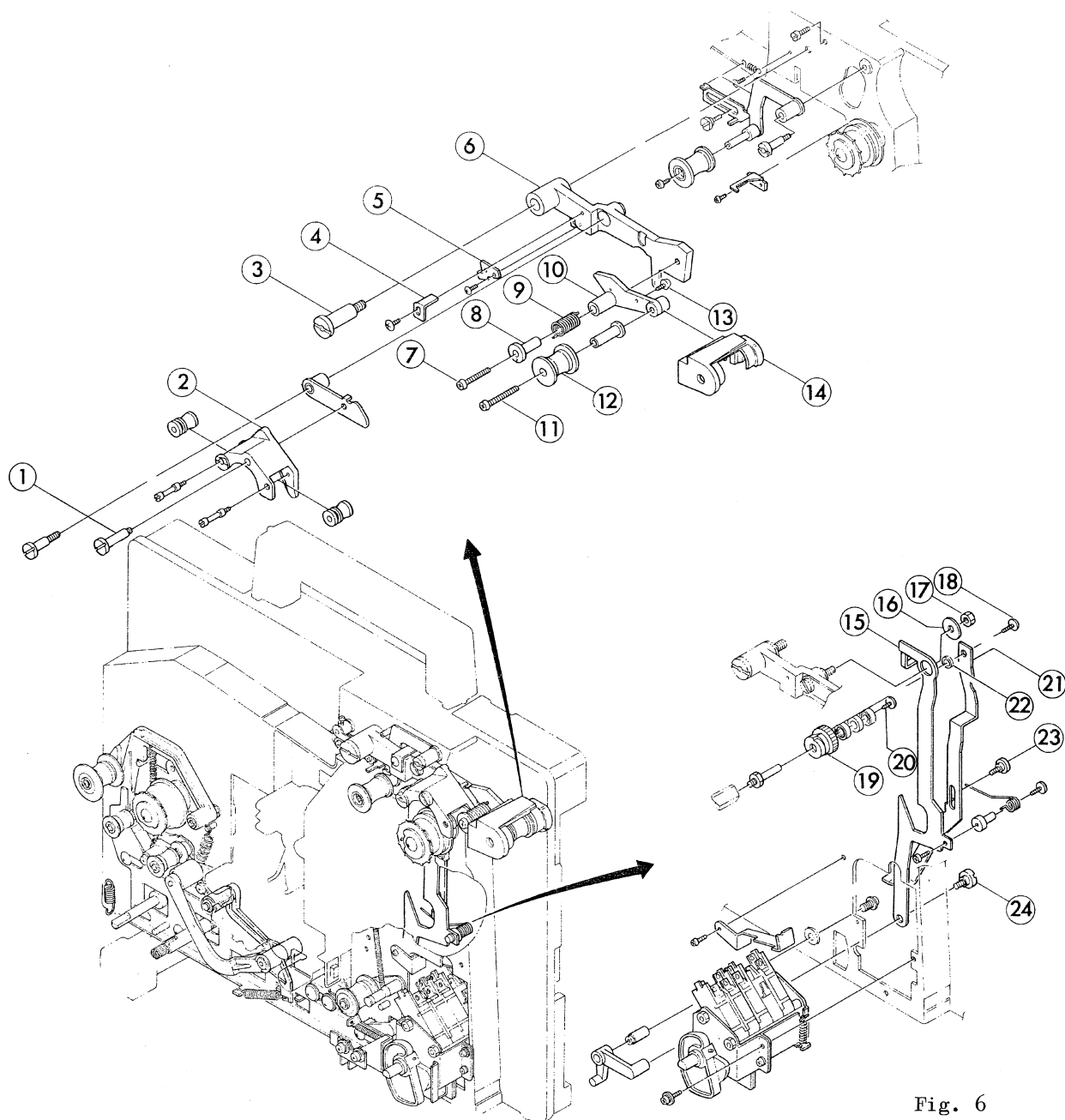


Fig. 6

| Illustration No. | Parts No.  | Parts Name       |                        |
|------------------|------------|------------------|------------------------|
| 1                | 4P55580    | 段付ネジ第1 スプロケットシュー | Screw sprocket shoe    |
| 2                | 4P31838    | シュー第1 スプロケット     | Shoe first sprocket    |
| 3                | 4P55579    | 段付ネジレバーシュー       | Screw lever shoe       |
| 4                | P412344    | 押エ板レバーガイドローラ(2)  | Plate guide roller 2   |
| 5                | P412216    | ストッパガイドローラ(2)    | Stopper guide roller 2 |
| 6                | 4P31827    | レバースプロケットシュー     | Lever sprocket shoe    |
| 7                | 6M70402501 | ナベ小ネジ M740-25    | Screw pan M740-25      |
| 8                | 4P55571    | 間座取付板ガイドローラ(1)   | Washer holder roller 1 |
| 9                | 4P55583    | バネ取付板ガイドローラ(1)   | Spring holder roller 1 |
| 10               | P412174    | 取付板ガイドローラ(1)     | Holder guide roller 1  |
| 11               | 6M70402501 | ナベ小ネジ M740-25    | Screw pan M740-25      |
| 12               | P412200    | ガイドローラ(1)        | Guide roller 1         |
| 13               | 6M60300605 | トラス小ネジ M630-6    | Screw truss M630-6     |

## F. MACHINE FRAME - LEVER SPROCKET SHOE

### 1. Disassembly

- (1) Remove Fig. 1-3,4,6,14,15.
- (2) Remove Fig. 6-12 by detaching Fig. 6-13,14,11.
- (3) Remove Fig. 6-10 by detaching Fig. 6-7.
- (4) Remove Fig. 6-2 by detaching Fig. 6-1.
- (5) Remove Fig. 6-6 by detaching Fig. 6-17,16,3.
- (6) Remove Fig. 6-15 in the following order:
  - \* Remove Fig. 12-15.
  - \* Remove Fig. 14-12.
  - \* Remove Fig. 6-21 by detaching Fig. 6-18,22,20,19,23.
  - \* Remove Fig. 6-15 by detaching Fig. 6-17,16,24.

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following points.

- (1) When Fig. 6-7 is loosened, turn Fig. 6-8,9 so that the tension on Fig. 6-10 may comes to 50-80 gr., measuring the tension at the attaching position of Fig. 6-11 by the tension guage. (Refer to U-1)
- (2) When Fig. 6-6 is removed or replaced, adjust the position of Fig. 6-4,5. (Refer to U-1)

|    |            |                     |                        |
|----|------------|---------------------|------------------------|
| 14 | 4P31886    | カバンガイドローラ(1)        | Cover guide roller 1   |
| 15 | 4P31850    | リンク(1)スプロケットシュー     | Link (1) sprocket shoe |
| 16 | 4P55055    | 間座アオリバネ             | Tilting spring washer  |
| 17 | 6NM11040F  | ナットM4.0             | Nut M4.0               |
| 18 | 6M60250401 | トラス小ネジ M625-4       | Screw truss M625-4     |
| 19 | P412237    | 摩擦車(2)ループセッタ        | Friction wheel 2       |
| 20 | 6M60250401 | トラス小ネジ M625-4       | Screw truss M625-4     |
| 21 | 4P31849    | リンク(1)ループセッタ        | Link (1) loop setter   |
| 22 | 4P55616    | 間座摩擦車               | Washer friction wheel  |
| 23 | 4P55230    | ネジ(1)ループフォーマ        | Loop former screw 1    |
| 24 | 4P55598    | 段付ネジリンク(1)スプロケットシュー | Screw link 1           |

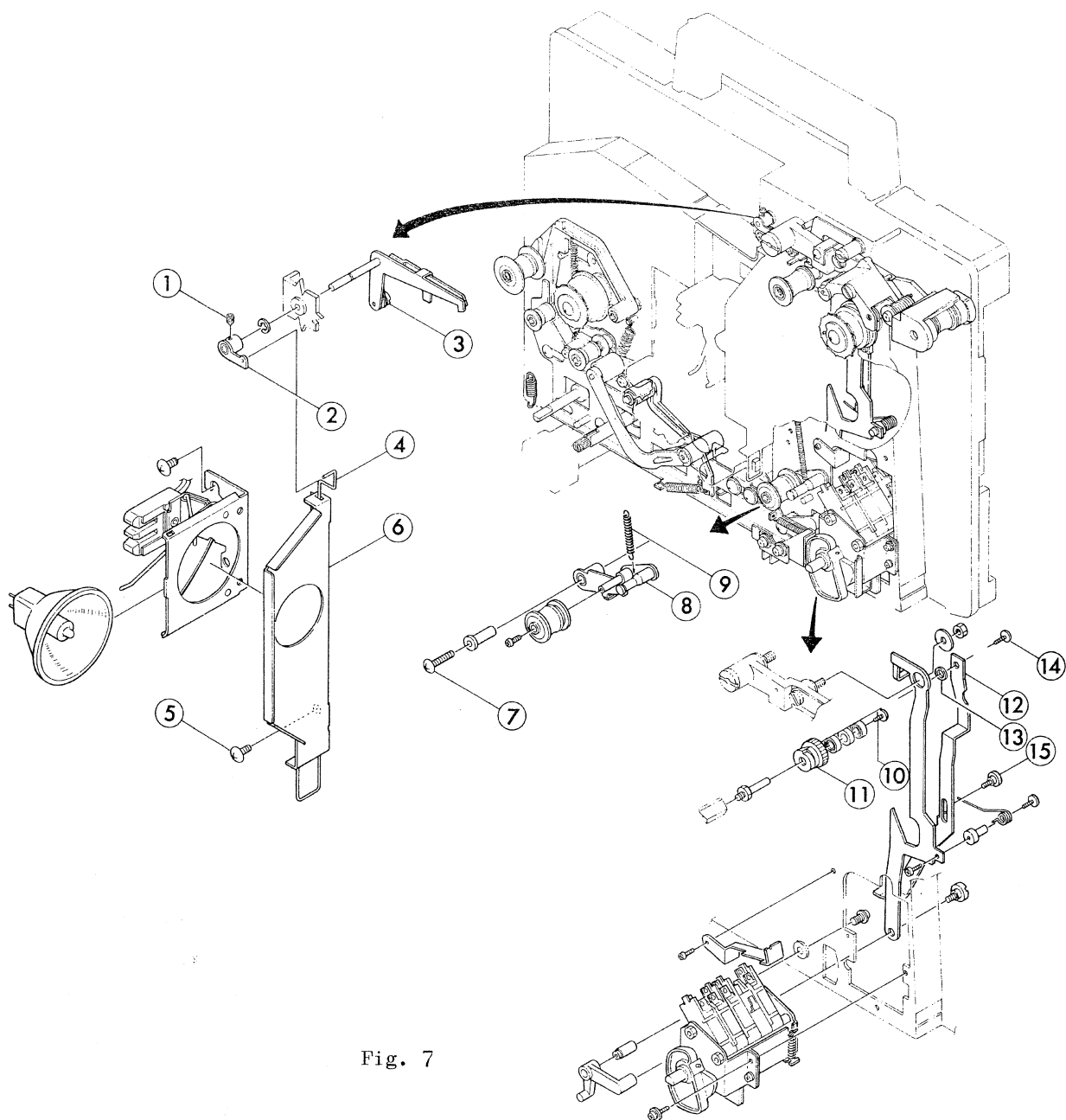


Fig. 7

| Illustration No. | Parts No.  | Parts Name     |                         |
|------------------|------------|----------------|-------------------------|
| 1                | 6MT4300305 | 六角穴止メネジ M30-3  | Set screw hexagon M30-3 |
| 2                | P412129    | ホルダ組立リンク(2)    | Holder link (2) assy    |
| 3                | P412352    | レバー組立ループセッタ    | Lever loop setter assy  |
| 4                | P412202    | リンク(2)ループセッタ   | Link (2) loop setter    |
| 5                | 6M60300501 | トラス小ネジ M630-5  | Screw truss M630-5      |
| 6                | P412385    | シャッターカバー組立品    | Shutter cover assy      |
| 7                | 6M60402001 | トラス小ネジ M640-20 | Screw truss M640-20     |
| 8                | P412179    | レバー組立ガイドローラ(3) | Lever guide roller 3    |
| 9                | 4P55597    | バネガイドローラ(3)    | Spring guide roller 3   |
| 10               | 6M60250401 | トラス小ネジ M625-4  | Screw truss M625-4      |
| 11               | P412237    | 摩擦車(2)ループセッタ   | Friction wheel 2        |
| 12               | 4P31849    | リンク(1)ループセッタ   | Link (1) loop setter    |
| 13               | 4P55616    | 間座摩擦車          | Washer friction wheel   |
| 14               | 6M60250401 | トラス小ネジ M625-4  | Screw truss M625-4      |
| 15               | 4P55230    | ネジ(1)ループフォーマ   | Loop former screw 1     |

## G. MACHINE FRAME - LOOP RESTORER

### 1. Disassembly

- (1) Remove Fig. 1-3,4,6,13,14,15.
- (2) Remove Fig. 7-6,4 by detaching Fig. 7-5x2, after Fig. 7-2 is removed by loosening Fig. 7-1.
- (3) Remove Fig. 7-3.
- (4) Remove Fig. 7-8 in the following order:
  - \* Remove Fig. 5-21.
  - \* Remove Fig. 7-8 by detaching Fig. 7-7,9.
- (5) Remove Fig. 7-12 in the following order:
  - \* Remove Fig. 12-15.
  - \* Remove Fig. 7-12 by detaching Fig. 7-14,13,15.
- (6) Remove Fig. 7-11 in the following order:
  - \* Remove (b) in Fig. 4 and Fig. 4-10.
  - \* Remove Fig. 7-14,13,15.
  - \* Remove Fig. 7-11 by detaching Fig. 7-10.

### 2. Assembly

Follow the reverse way of the above steps.  
After the assembly is completed, check the function of Loop Restorer.

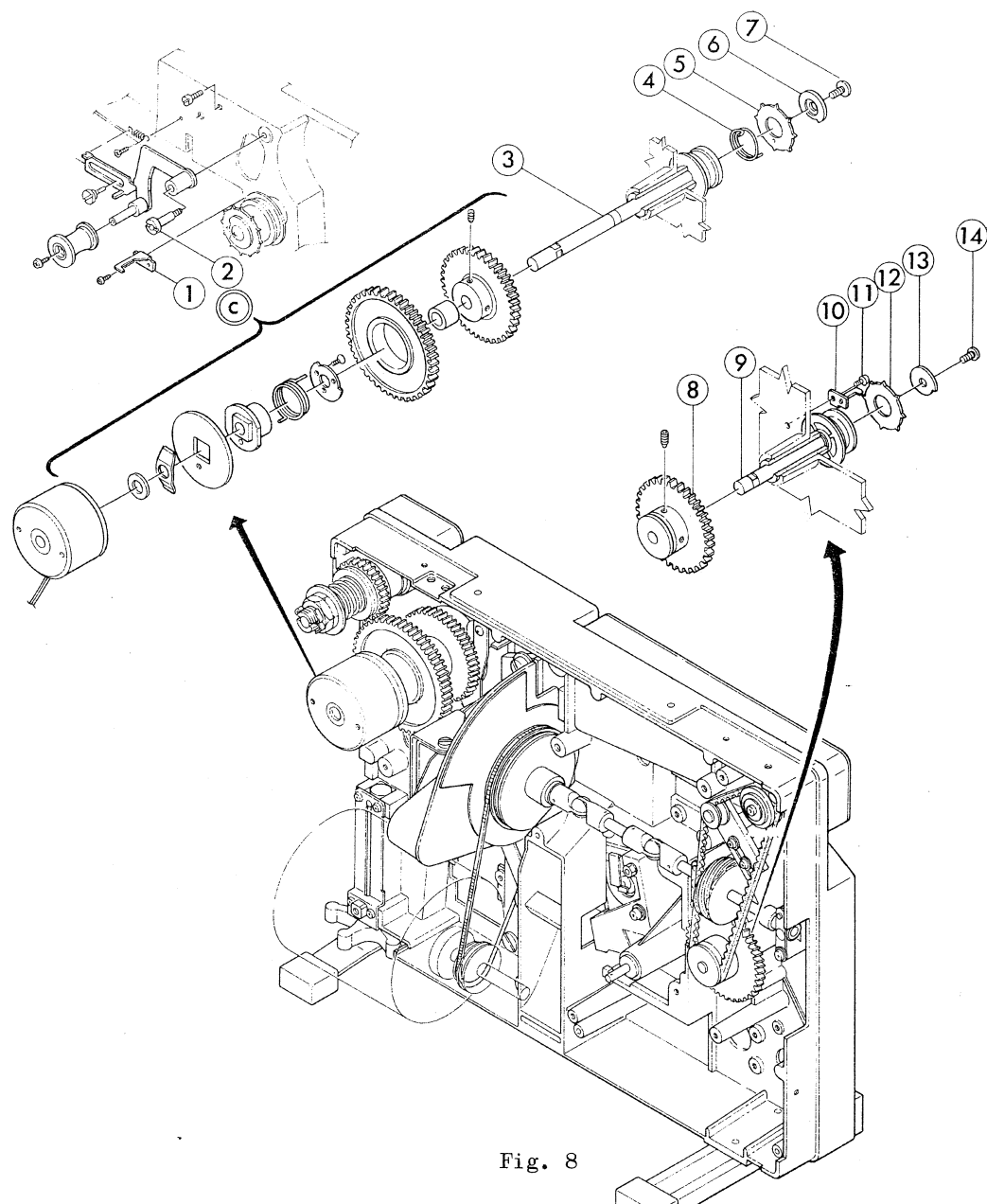


Fig. 8

| Illustration No. | Parts No.  | Parts Name    |                       |
|------------------|------------|---------------|-----------------------|
| 1                | 6M70250401 | ナベ小ネジ M725-4  | Screw pan M725-4      |
| 2                | P412181    | 巻込ヨケスプロケット    | Film guide sprocket   |
| 3                | P412159    | 第1スプロケット      | First sprocket        |
| 4                | 4P55577    | バネ第1スプロケット    | Spring first sprocket |
| 5                | P412338    | 歯第1スプロケット     | Cog first sprocket    |
| 6                | P412141    | キャップスプロケット    | Cap sprocket          |
| 7                | 6M60400601 | トラス小ネジ M640-6 | Screw truss M640-6    |
| 8                | P412161    | ウォームギヤ(2)組立品  | Worm gear (2) assy    |
| 9                | P412183    | 第2スプロケット      | Second sprocket       |
| 10               | P412181    | 巻込ヨケスプロケット    | Film guide sprocket   |
| 11               | 6M70250401 | ナベ小ネジ M725-4  | Screw pan M725-4      |
| 12               | 4P44463    | 16mmスプロケット    | Sprocket              |
| 13               | P412141    | キャップスプロケット    | Cap sprocket          |
| 14               | 6M60400601 | トラス小ネジ M640-6 | Screw truss M640-6    |

## H. MACHINE FRAME - SPROCKET

### 1. Disassembly

- (1) Remove Fig. 1-14.
- (2) Remove Fig. 8-5 by detaching Fig. 8-7,6.
- (3) Remove Fig. 8-3 in the following order:  
(Use care not to make scratch on bearing.)
  - \* Remove Fig. 8-2 by detaching Fig. 8-1.
  - \* Remove Fig. 8-3 by detaching (c) in Fig. 8. (Refer to D-1)
- (4) Remove Fig. 8-12 by detaching Fig. 8-14,13.
- (5) Remove Fig. 8-9 in the following order:  
(Use care not to make scratch on bearing.)
  - \* Remove Fig. 8-10 by detaching Fig. 8-11.
  - \* Remove Fig. 8-9 by detaching Fig. 8-8. (Refer to B-1)

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following point.

- (1) Use best care to prevent damage to cogs of gears which are attached to Fig. 8-3 when tightening Fig. 8-7 and also to cogs of Fig. 8-8 when tightening Fig. 8-14.

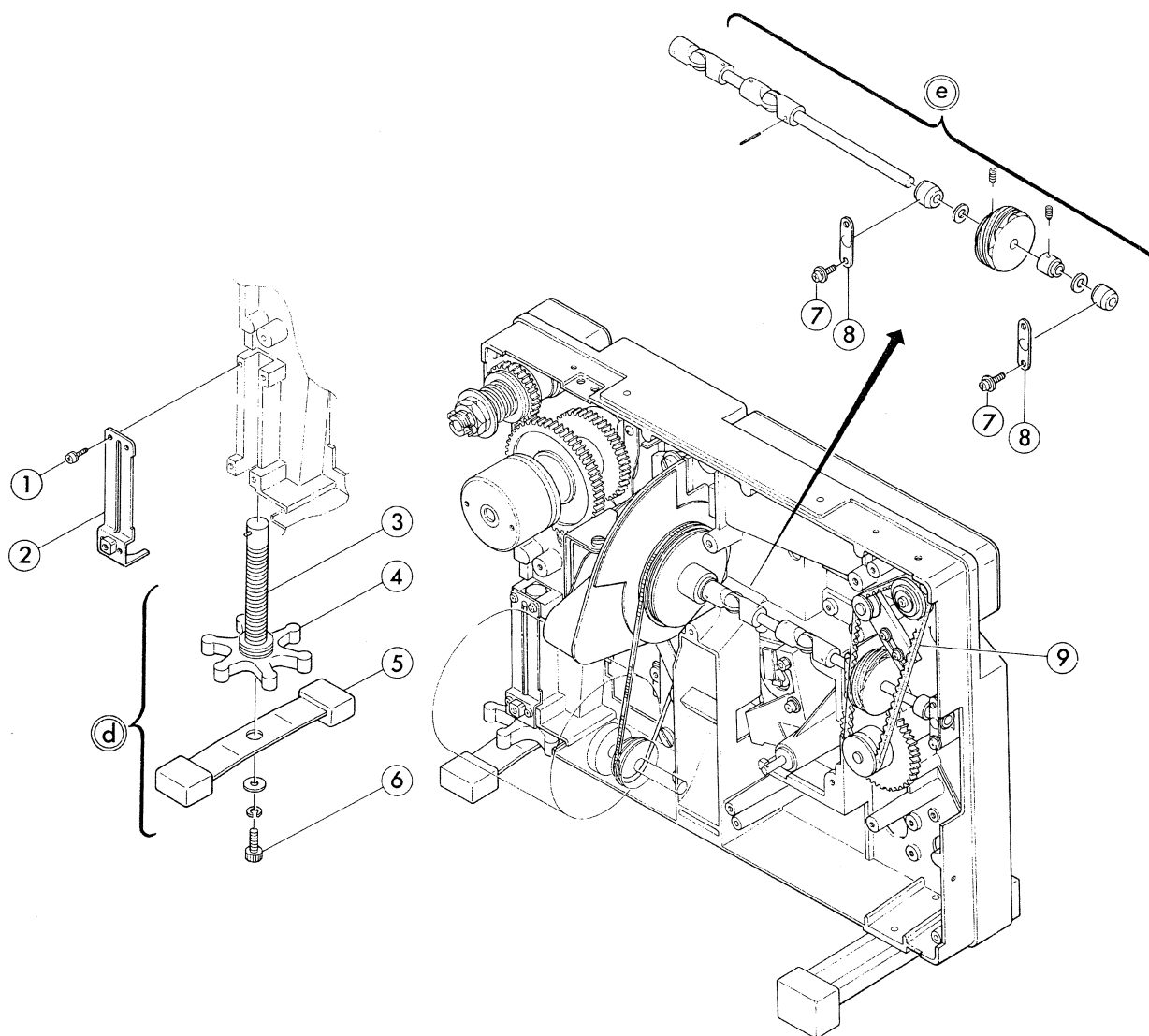


Fig. 9

| Illustration No. | Parts No.  | Parts Name       |                           |
|------------------|------------|------------------|---------------------------|
| 1                | 6M7A300601 | ナベ小ネジセムスA M730-6 | Screw sems-A M730-6       |
| 2                | P412243    | 取付金具アオリ棒         | Metal tilting leg         |
| 3                | P412178    | アオリ棒             | Tilting leg               |
| 4                | P412146    | アオリつまミ           | Tilting knob              |
| 5                | P412153    | 前足               | Front leg                 |
| 6                | 6FM3050125 | 六角穴付ボルト M5 - 12  | Hexagon hole bolt M5 - 12 |
| 7                | 6M7B300801 | ナベ小ネジセムスB M730-8 | Screw sems-B M730-8       |
| 8                | P412191    | メタル押エ            | Metal presser             |
| 9                | P412203    | Vベルト巻取           | V belt take-up            |

I. MACHINE FRAME - TILTING

1. Disassembly

- (1) After Fig. 1-15 is removed, remove (1) in Fig. 14 as a unit.
- (2) Remove (d) in Fig. 9 by detaching Fig. 9-1x4,2.
- (3) Remove Fig. 9-3,4,5 by detaching Fig. 9-6.  
Detach only Fig.9-6 when only Fig. 9-5 is to be removed.

2. Assembly

Follow the reverse way of the above steps.

J. MACHINE FRAME - UNIVERSAL JOINT

1. Disassembly

- (1) Remove Fig. 1-15.
- (2) Remove Fig. 9-9. (Refer to B-1)
- (3) Remove Fig. 9-8 by detaching Fig. 9-7.
- (4) Pull out (e) in Fig. 9 as a unit toward the rear side of projector.

2. Assembly

Follow the reverse way of the above steps.  
After the assembly is completed, be sure to adjust the tension of Fig. 9-9. (Refer to B-2)



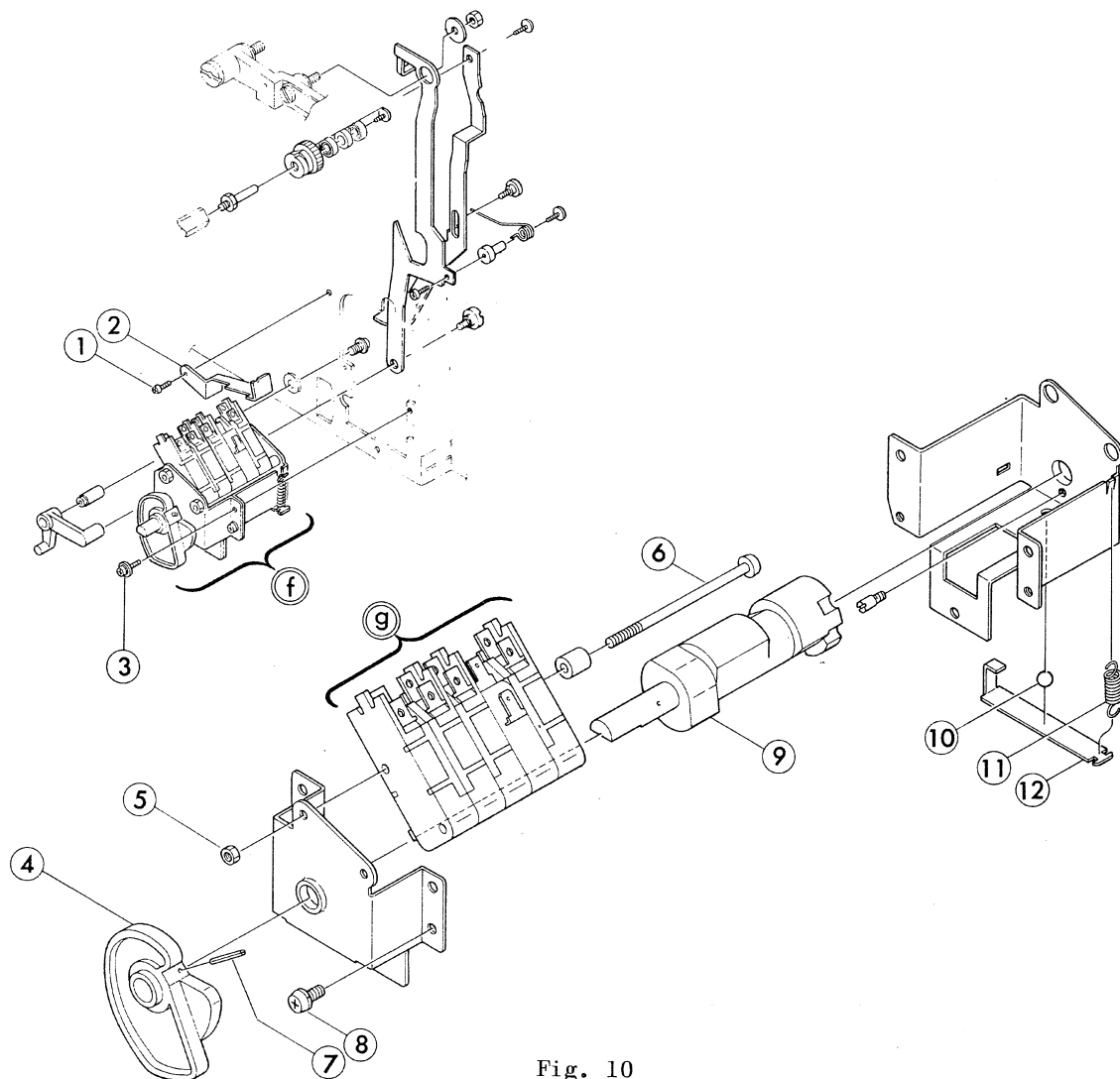


Fig. 10

| Illustration No. | Parts No.  | Parts Name       |                         |
|------------------|------------|------------------|-------------------------|
| 1                | 6T74300601 | ナベタッピングネジ 730-6  | Tapping pan 730-6 (2L)  |
| 2                | P412340    | コード押エ            | Cord supporter          |
| 3                | 6M7B300801 | ナベ小ネジセムスB M730-8 | Screw sems-B M730-8     |
| 4                | P412173    | カム連桿(1)          | Cam link 1              |
| 5                | 6NM11030F  | ナット M3.0         | Nut M3.0                |
| 6                | 6M70306001 | ナベ小ネジ M730-60    | Screw pan M730-60       |
| 7                | 6J616140A  | スパイロールピン         | Spyrol pin              |
| 8                | 6M7A300601 | ナベ小ネジセムスA M730-6 | Screw sems-A M730-6     |
| 9                | 4P55594    | ストッパピンスイッチカム     | Stopper pin switch cam  |
| 10               | 6G2040     | スチールボール 4D       | Steel ball 4mm          |
| 11               | 4P55593    | クリックパネスイッチカム     | Click spring switch cam |
| 12               | P412142    | レバークリックパネ        | Lever click spring      |

## K. MAIN SWITCH

### 1. Disassembly

- (1) Remove Fig. 1-14,13.
- (2) Remove Fig. 5-21. (Refer to E-1)
- (3) Remove Fig. 10-2 by detaching Fig. 10-1.
- (4) Remove (f) in Fig. 10 by detaching Fig. 10-3x3 and disconnect lead wires of (g) in Fig. 10.  
Use care not to touch Fig. 10-8.
- (5) Remove (g) in Fig. 10 by detaching Fig. 10-5x2,6x2.
- (6) Remove Fig. 1-4 by detaching Fig. 10-7.  
Fig. 10-4 can be removed before Main Switch is disassembled.
- (7) Remove Fig. 10-10,12 by detaching Fig. 10-11.
- (8) Remove Fig. 10-9 by detaching Fig. 10-8x2.

### 2. Assembly

Follow the reverse way of the above steps.

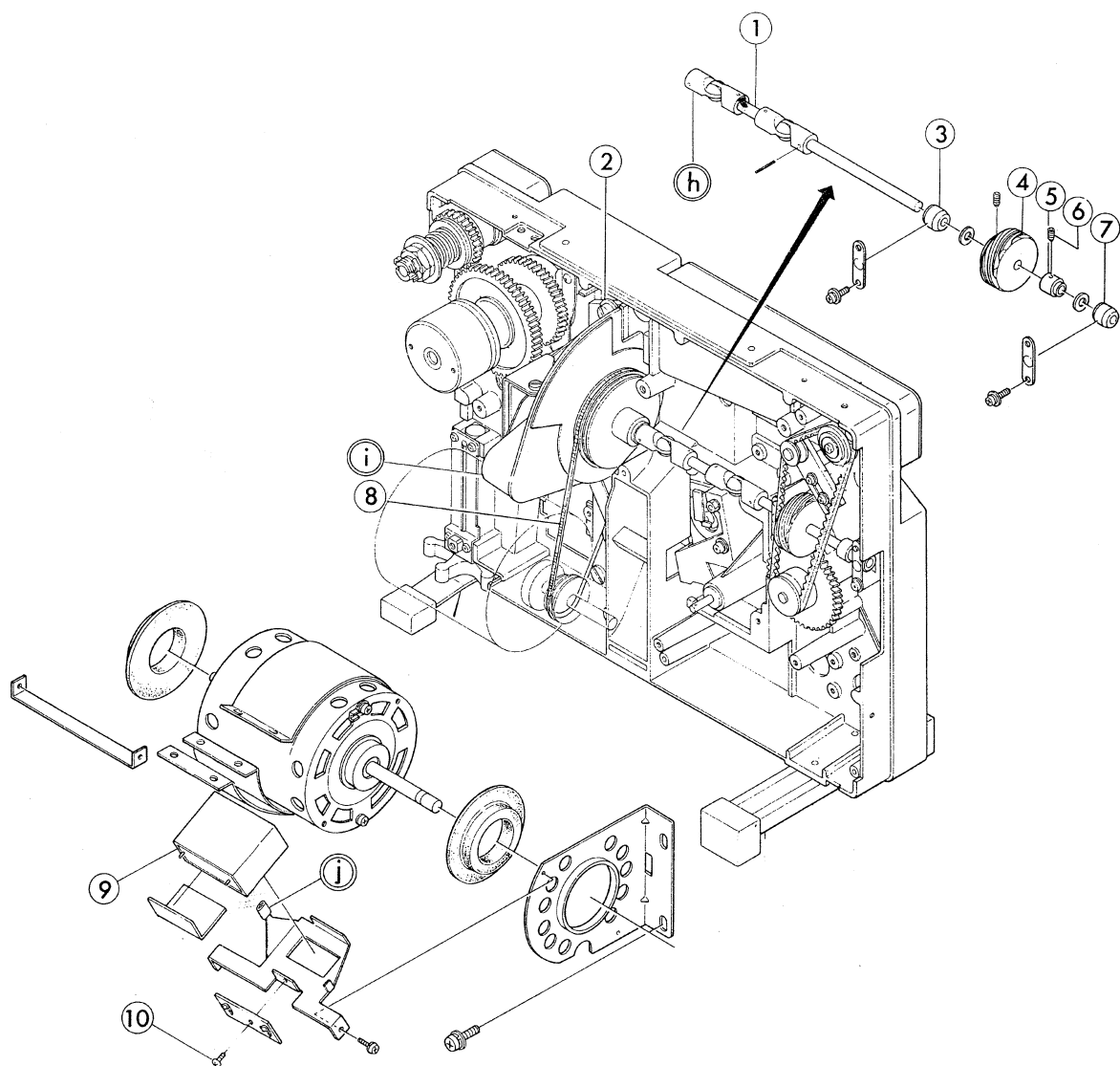


Fig. 11

| Illustration No. | Parts No.  | Parts Name     |                         |
|------------------|------------|----------------|-------------------------|
| 1                | P412176    | 中間軸(1)         | Middle shaft 1          |
| 2                | 4P55081    | ネジフレーム給送部      | Frame fix screw         |
| 3                | 4P46460    | メタル中間軸         | Middle shaft metal      |
| 4                | P412285    | ウォーム(2)        | Worm 2                  |
| 5                | 4P49039    | 間座主軸           | Main shaft washer       |
| 6                | 6MT4300305 | 六角穴止メネジ M30-3  | Set screw hexagon M30-3 |
| 7                | 4P46460    | メタル中間軸         | Middle shaft metal      |
| 8                | 6VV3M375   | Vベルトメイン3M375   | V belt main 3M375       |
| 9                | 5DJ0172211 | コンデンサ10μF-220V | Polyest film 10μF-220wV |
| 10               | 6M70300401 | ナベ小ネジ M730-4   | Screw pan M730-4        |

## L. CLAW SECTION

### 1. Dismounting

- (1) Remove Fig. 1-15.
- (2) After (j) in Fig. 11 is raised up, remove Fig. 11-9 by detaching Fig. 11-10.
- (3) After Fig. 2-8 is removed, loosen Fig. 11-6x2 and disconnect the joint between Fig. 11-1 and (h), pushing Fig. 11-1 toward the rear side of projector by screwdriver.  
(Refer to B-1)
- (4) Remove Fig. 11-8 from (i) in Fig. 11.
- (5) Set Fig. 1-10 at "9" position and remove (i) in Fig. 11 by detaching Fig. 11-2x2.

### 2. Mounting

Follow the reverse way of the above steps, paying attention to the following point.

- (1) Be sure that there are no clearances between Fig. 11-3 and 4, and between Fig. 11-5 and 7.

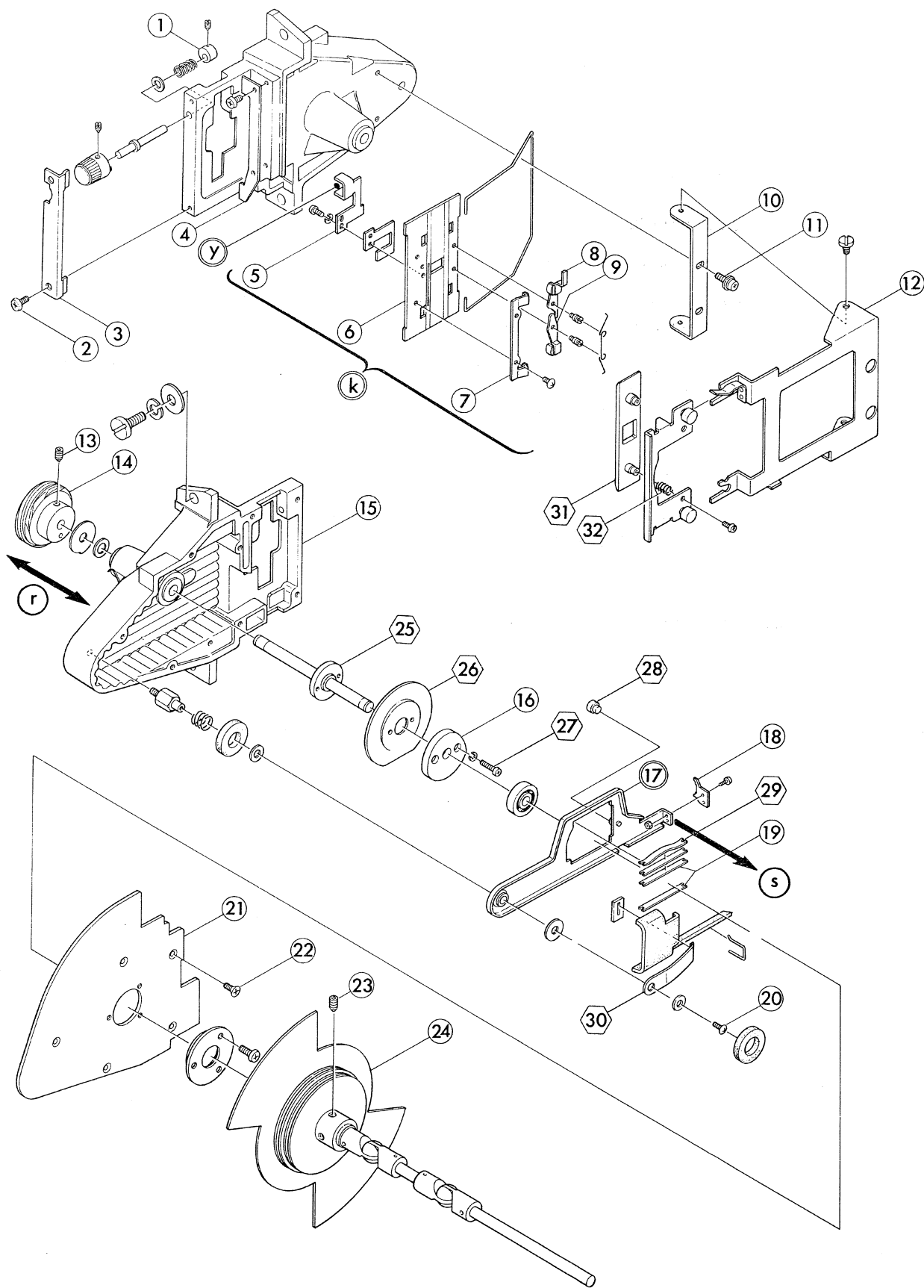


Fig. 12

| Illustration No. | Parts No.  | Parts Name        |                          |
|------------------|------------|-------------------|--------------------------|
| 1                | 4P41729D   | マスキングカム           | Masking cam              |
| 2                | 6M70300401 | ナベ小ネジ M730-4      | Screw pan M730-4         |
| 3                | 4P41731    | アパーチュアプレート取付板     | Aperture plate holder    |
| 4                | P412199    | 押エ板アパーチュアプレート     | A. P pressing plate      |
| 5                | 4P41884    | マスキングカムガイド        | Masking guide            |
| 6                | P412168    | アパーチュアプレート        | Aperture plate           |
| 7                | P412347    | 組立フィルムガイド(1)      | Film guide (1) assy      |
| 8                | P412345    | 組立フィルム横押エ(1)      | Film side presser 1      |
| 9                | P412346    | 組立フィルム横押エ(2)      | Film side presser 2      |
| 10               | P412143    | 押エ板プレッシャプレート      | Holder pressure plate    |
| 11               | 6M7B300801 | ナベ小ネジセムスB M730-8  | Screw sems-B M730-8      |
| 12               | P412348    | 組立ホルダ(1)プレッシャプレート | Holder (1) presser plate |
| 13               | 6MT4500805 | 六角穴止メネジ M50-8     | Set screw hexagon M50-8  |
| 14               | P412284    | ウォーム(1)           | Worm 1                   |
| 15               | 4P20574    | 間欠給送装置フレーム        | Claw section frame       |
| 16               | P411318    | 三角カム              | Triangle cam             |
| 17               | P411332    | 送り爪(1)組立品         | Claw assy                |
| 18               | P411324    | 送り爪(2)            | Claw 2                   |
| 19               | P411325    | 送り爪棒              | Slide plate claw         |
| 20               | 6M70300501 | ナベ小ネジ M730-5      | Screw pan M730-5         |
| 21               | 4P31692    | 蓋給送部              | Frame lid                |
| 22               | 6M80300601 | 平小ネジ M830-6       | Screw FL-PLS M830-6      |
| 23               | 6MT4500805 | 六角穴止メネジ M50-8     | Set screw hexagon M50-8  |
| 24               | 4P31852    | 組立シャッタ(1)         | Shutter (1) assy         |
| 25               | P411335    | 三角カム軸組立品          | Triangle cam shaft assy  |
| 26               | P411317    | 面カム               | Face cam                 |
| 27               | 6M70250801 | ナベ小ネジ M725-8      | Screw pan M725-8         |
| 28               | P411323    | ピン送り爪             | Claw pin                 |
| 29               | P411326    | バネ送り爪棒            | Spring slide plate claw  |
| 30               | P411327    | バネ送り爪             | Spring claw              |
| 31               | P412350    | プレッシャプレート組立品      | Pressure plate assy      |
| 32               | 4P55653    | プレッシャプレートバネ       | Spring pressure plate    |

### 3. Disassembly

- (1) Remove (k) in Fig. 12 by detaching Fig. 12-2x2,3.
- (2) Remove Fig. 12-10,12 by detaching Fig. 12-11x2.
- (3) Remove Fig. 12-24 by detaching Fig. 12-23x2.
- (4) Remove Fig. 12-21 by detaching Fig. 12-22x5.
- (5) Remove Fig. 12-17 by detaching Fig. 12-20.
- (6) Remove Fig. 12-14 by detaching Fig. 12-13x2.  
Fig. 12-14 can be removed without disassembling Claw Section.

### 4. Assembly

Follow the reverse way of the above steps, paying attention to the following points. (Refer to W-1)

- (1) When attaching Fig. 12-7, make certain that center of aperture opening (Fig. 12-6) coincide with that of film frame.
- (2) Keep approx. 0.3mm clearance between Fig. 12-8 and 9 when film is loaded.
- (3) Fig. 12-1 should not only closely contact with (y) in Fig. 12 but also smoothly move.
- (4) When Fig. 12-4 is attached, Fig. 12-6 should not only closely contact with Fig. 12-15 but also smoothly move.
- (5) Fig. 12-16 should not only closely contact with Fig. 12-19 but also smoothly move.
- (6) When Fig. 12-17,16 are replaced, check the following points:
  - \* Protrudent length of tip of Fig. 12-18 from film surface.  
(1mm)
  - \* Position of claw tip in a film perforation.
  - \* Position of claw during the framing.
  - \* Stroke of claw.
- (7) When attaching Fig. 12-24, adjust the timing of Fig. 12-24 and 18 so that pictures may not flow.
- (8) Apply liquid Gasket (semi drying type) on contacting surfaces of Fig. 12-21,15 and fix them with Fig. 12-22x5.

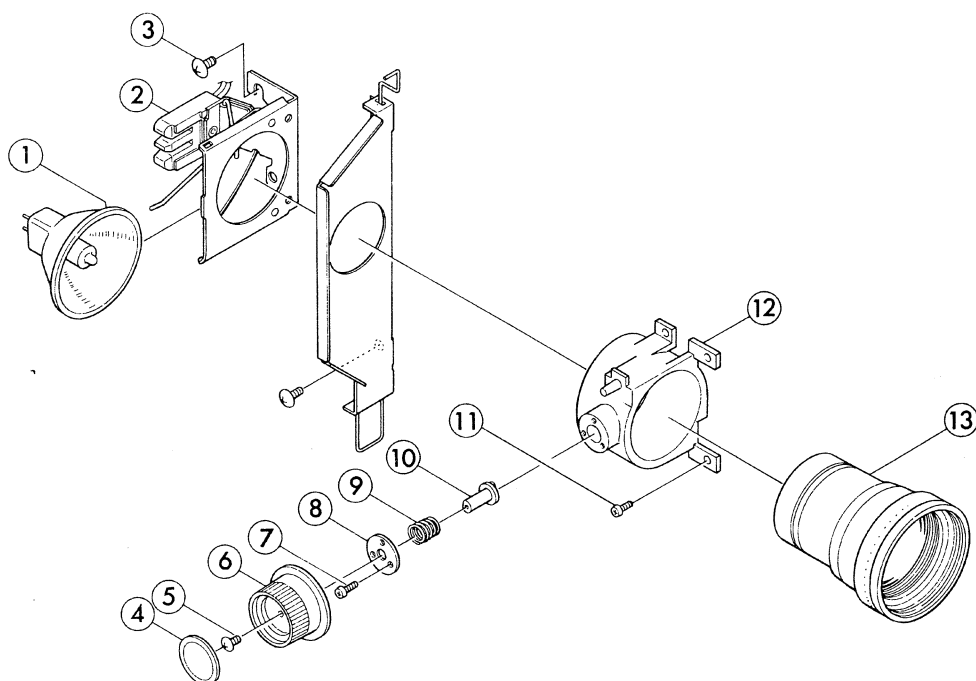


Fig. 13

| Illustration No. | Parts No.  | Parts Name         |                          |
|------------------|------------|--------------------|--------------------------|
| 1                | 5L42402514 | 映写ランプ JCR 24V-250W | Lamp 24V-250W JCR        |
| 2                | 5N1022     | ランプソケット QEX-7      | Lamp socket QEX-7        |
| 3                | 4P47107    | ネジランプソケットホルダ       | Lamp socket holder screw |
| 4                | 4N02033    | 銘板(2)フォーカシングツマミ    | Focusing plate 2         |
| 5                | 6M60250601 | トラス小ネジ M625-6      | Screw truss M625-6       |
| 6                | P412186    | ツマミフォーカシング         | Knob focusing            |
| 7                | 6M70250401 | ナベ小ネジ M725-4       | Screw pan M725-4         |
| 8                | 4P52797    | 映写レンズフォーカシング座      | Focusing shaft mount     |
| 9                | 4P55631    | バネフォーカシングツマミ       | Spring focusing knob     |
| 10               | P412175    | 軸フォーカシングツマミ        | Shaft focusing knob      |
| 11               | 6M70250601 | ナベ小ネジ M725-6       | Screw pan M725-6         |
| 12               | 4P31824    | ホルダ映写レンズ           | Holder projection lens   |
| 13               | 4P31741    | 映写レンズ F1.3-50mm    | Projection lens 13-50mm  |



## M. PROJECTION LENS

### 1. Disassembly

- (1) Remove Fig. 1-14,6.
- (2) Remove Fig. 13-13 by pulling out Fig. 13-6.
- (3) After Fig. 13-4 is detached from Fig. 13-6, remove Fig. 13-6 by detaching Fig. 13-5.
- (4) Remove Fig. 13-9,10 by detaching Fig. 13-7x3,8.
- (5) Remove Fig. 13-12 by detaching Fig. 13-11x4.

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following points:

- (1) First attach Fig. 13-12 slightly with Fig. 13-11x4. Then fix Fig. 13-12 by tightening Fig. 13-11x4 and pushing it downward.
- (2) When Fig. 13-4 is removed, be sure to replace it with new one.

## N. PROJECTION LAMP

### 1. Disassembly

- (1) Remove Fig. 1-3.
- (2) Remove Fig. 13-2 by detaching Fig. 13-1,3x2.

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following point.

- (1) When Fig. 13-2 is re-attached, be sure to check and adjust the leveled screen brightness.

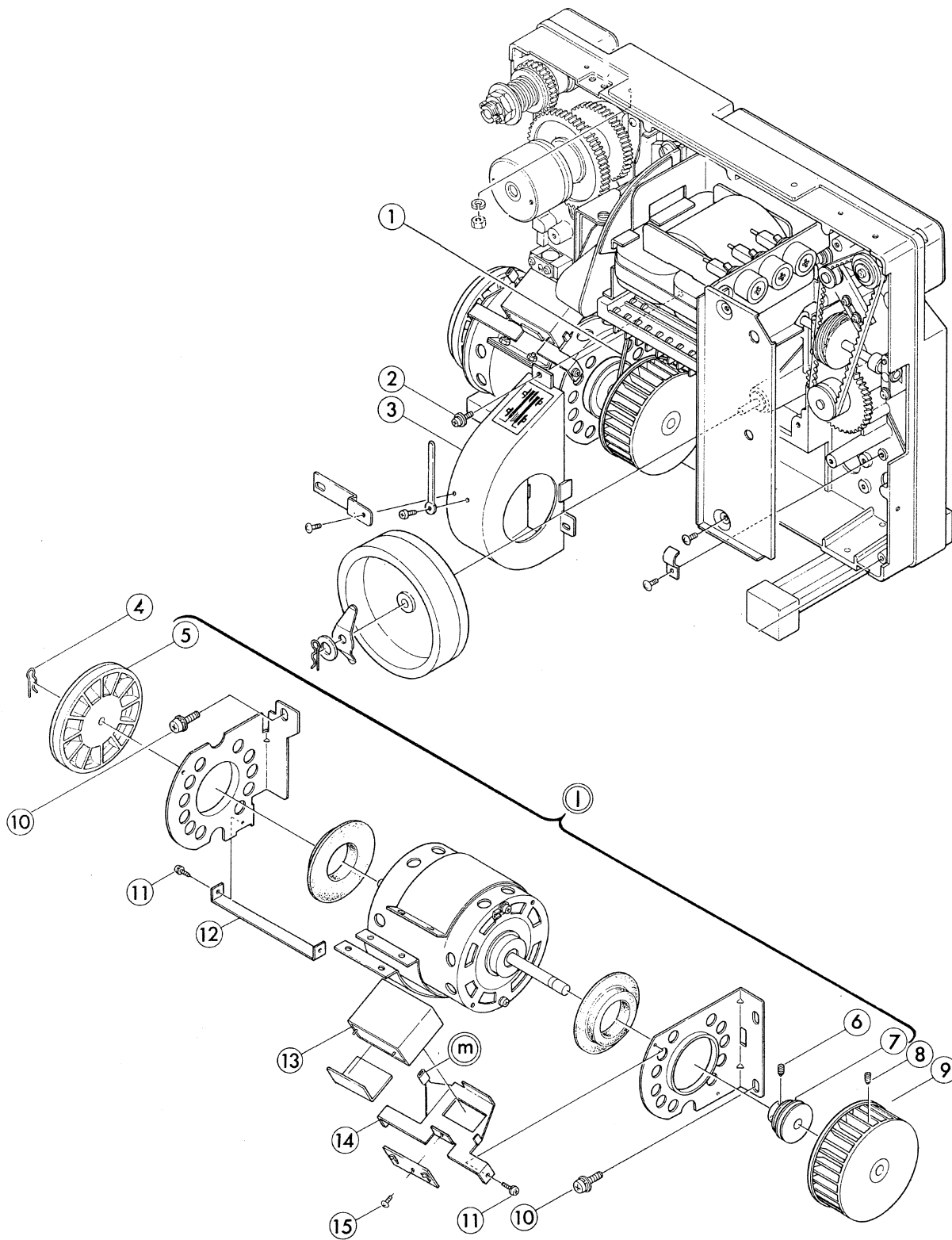


Fig. 14

## 0. MOTOR

### 1. Disassembly

- (1) Remove Fig. 1-13,14,15.
- (2) After Fig. 10-2 is removed, disconnect lead wires of the motor.
- (3) Raising (m) in Fig. 14 up, remove Fig. 14-13 by loosening Fig. 14-15.
- (4) Remove Fig. 14-3 by detaching Fig. 14-2x2.
- (5) Remove Fig. 14-10x4.
- (6) Remove Fig. 14-9 by detaching Fig. 14-8.
- (7) Remove (l) in Fig. 14 as a unit, unfastening Fig. 14-1 from (l).
- (8) Remove Fig. 14-5 by detaching Fig. 14-4.
- (9) Remove Fig. 14-7 by detaching Fig. 14-6x2.
- (10) Remove Fig. 14-12,14 by detaching Fig. 14-11x4.

### 2. Assembly

Follow the reverse way of the above steps, paying attention to the following point.

- (1) Adjust the position of (l) in Fig. 14 so that the adequate belt tension is obtained.  
And be sure that (l) in Fig. 14 does not interfere with other parts.

| Illustration No. | Parts No.  | Parts Name            |                               |
|------------------|------------|-----------------------|-------------------------------|
| 1                | 6VV3M375   | Vベルトメイン3M375          | V belt main 3M375             |
| 2                | 6M7B300801 | ナベ小ネジセムスB M730-8      | Screw sems-B M730-8           |
| 3                | 4P31837    | ファンケーシング              | Fan casing                    |
| 4                | 6Z0006     | スナップピン                | Snap pin                      |
| 5                | 6Z0005     | ファン                   | Motor fan                     |
| 6                | 6MT4400605 | 六角穴止メネジ M40-6         | Set screw hexagon M40-6       |
| 7                | P412240    | プーリ(1)モータ             | Pulley (1) motor              |
| 8                | 6MT4400605 | 六角穴止メネジ M40-6         | Set screw hexagon M40-6       |
| 9                | P412292    | ファン                   | Fan                           |
| 10               | 6M7B501201 | ナベ小ネジセムスB M750-12     | Screw sems-B M750-12          |
| 11               | 6M7A300601 | ナベ小ネジセムスA M730-6      | Screw sems-A M730-6           |
| 12               | P411613    | ホルダー(3)モータ            | Holder (3) motor              |
| 13               | 5DJ0172211 | コンデンサ 10 $\mu$ F-220V | Polyest film 10 $\mu$ F-220wV |
| 14               | P412320    | ホルダコンデンサ              | Holder condenser              |
| 15               | 6M70300401 | ナベ小ネジ M730-4          | Screw pan M730-4              |

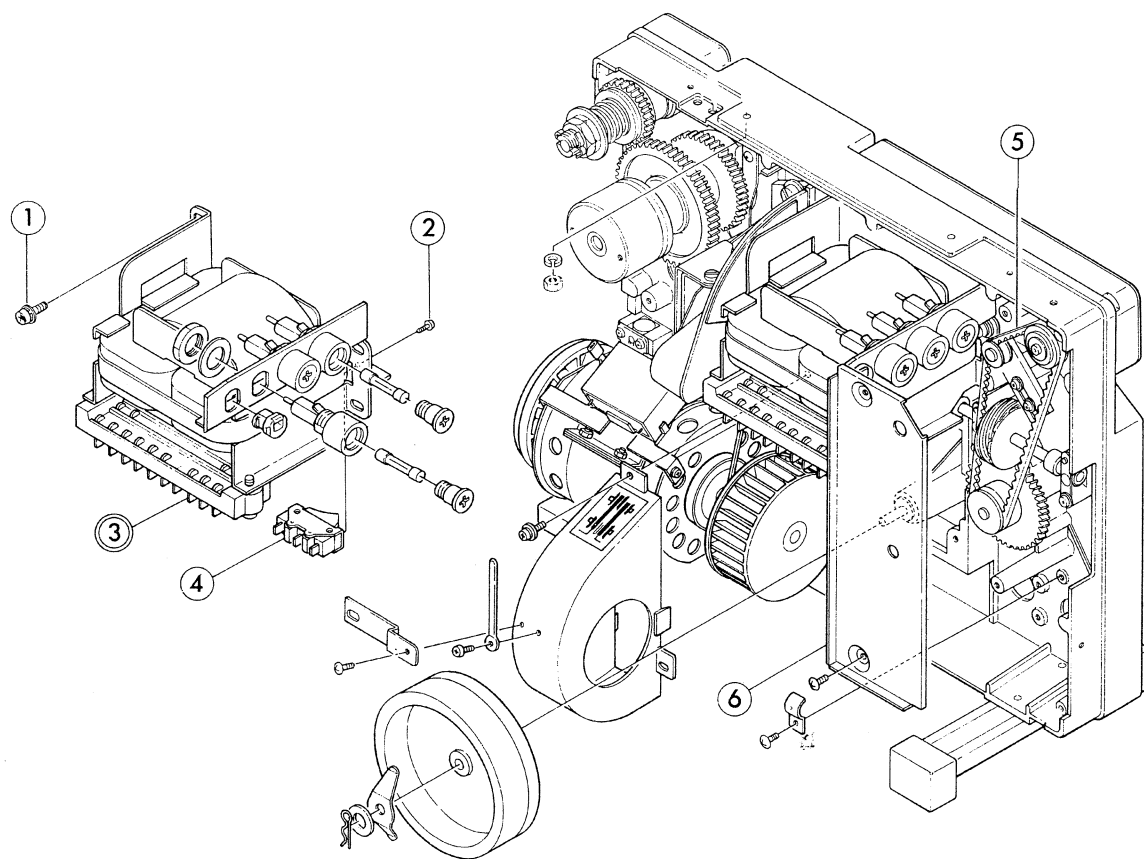


Fig. 15

| Illustration No. | Parts No.  | Parts Name        |                        |
|------------------|------------|-------------------|------------------------|
| 1                | 6M7B501201 | ナベ小ネジセムスB M750-12 | Screw sems-B M750-12   |
| 2                | 6M70250401 | ナベ小ネジ M725-4      | Screw pan M725-4       |
| 3                | 4E20446    | 電源トランス(1)組立品      | Transformer (1) assy   |
| 4                | 5E6009     | 波動スイッチ WD-31019   | Seesaw switch WD-31019 |
| 5                | P412203    | Vベルト巻取            | V belt take-up         |
| 6                | P412190    | アテ板裏カバー           | Rear cover plate       |

P. TRANSFORMER

1. Disassembly

- (1) Remove Fig. 1-13,14,15.
- (2) Remove Fig. 15-6,5.
- (3) Disconnect lead wires of Fig. 15-3.
- (4) Remove Fig. 15-3 by detaching Fig. 15-1x4.
- (5) Remove Fig. 15-4 by detaching Fig. 15-2x2.

2. Assembly

Follow the reverse way of the above steps, paying attention to the following point.

- (1) Adjust the tension of Fig. 15-5.

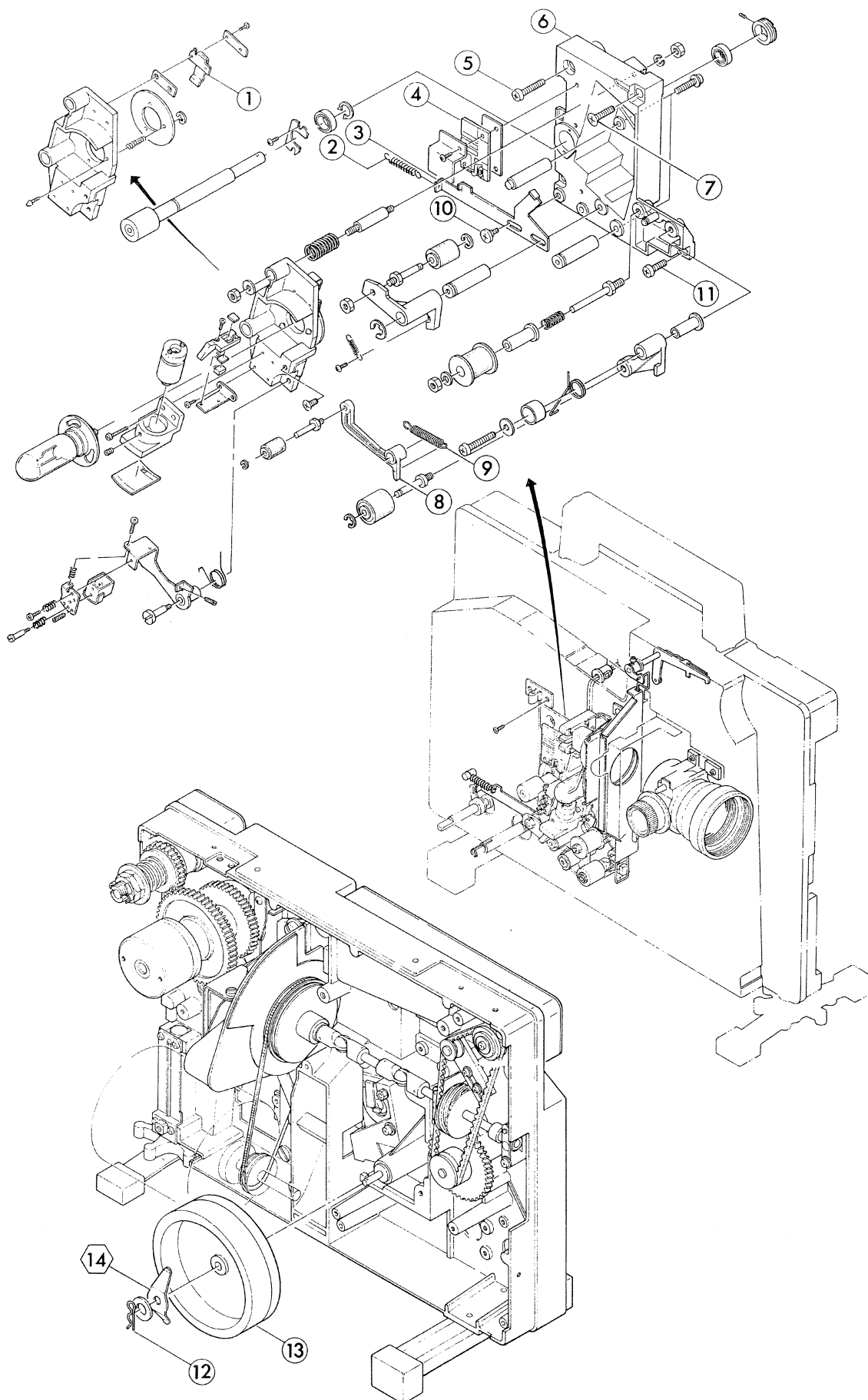


Fig. 16

## Q. SOUND BASE PLATE

### 1. Dismounting

- (1) Remove Fig. 1-3,6,14,13,15.
- (2) Remove Fig. 16-13 by detaching Fig. 16-12.
- (3) Unsolder the end of lead wire of Fig. 16-1.
- (4) Set lead wires of Fig. 16-4 free by detaching their cord pressers and connector, Fig. 18-5.
- (5) Remove Fig. 16-8 by detaching Fig. 5-21 and Fig. 16-9.  
(Refer to E-1)
- (6) Remove Fig. 16-3 by detaching Fig. 16-2,10.
- (7) Remove Fig. 16-6 by detaching Fig. 16-5,11,7x2.

### 2. Mounting

Follow the reverse way of the above steps, paying attention to the following point.

- (1) When attaching Fig. 16-6, tighten Fig. 16-5,11 after the position of Fig. 16-6 is fixed with Fig. 16-7x2.

| Illustration No. | Parts No.  | Parts Name        |                          |
|------------------|------------|-------------------|--------------------------|
| 1                | P412092    | 端子押エエキサイタランプ      | Terminal exciter lamp    |
| 2                | 4P55113    | パネパッドローラ          | Pad roller spring        |
| 3                | P412104    | レバー(1)M-O 切換      | Lever (1) M-O switch     |
| 4                | 4E42720    | 端子板ヘッド            | Terminal head            |
| 5                | 6M70401801 | ナベ小ネジ M740-18     | Screw pan M740-18        |
| 6                | 4P20566    | ホルダフライホイール        | Holder fly wheel         |
| 7                | 6M80402001 | 平小ネジ M840-20      | Screw FL-PLS M840-20     |
| 8                | P412057    | レバープレッシャローラ       | Lever pressure roller    |
| 9                | 4P55551    | パネプレッシャローラ        | Spring pressure roller   |
| 10               | 4P55636    | 段付ネジ M-O 切換レバー(1) | Screw M-O switch lever 1 |
| 11               | 6M70401001 | ナベ小ネジ M740-10     | Screw pan M740-10        |
| 12               | 6Z0006     | スナップピン            | Snap pin                 |
| 13               | 4P48612    | フライホイール           | Fly wheel                |
| 14               | 4P46467    | パネフライホイール         | Fly wheel spring         |

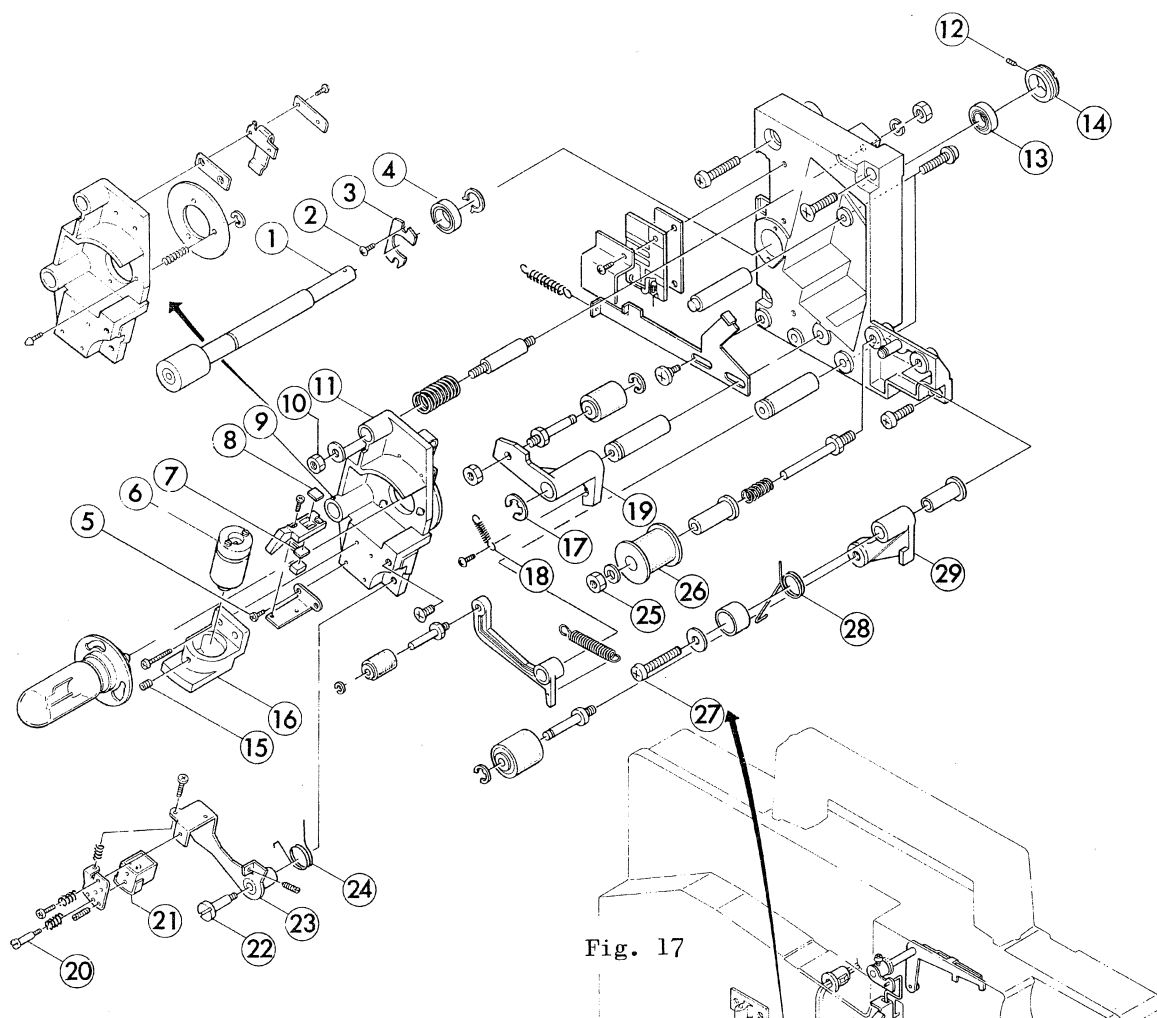


Fig. 17

| Illustration No. | Parts No.  | Parts Name          |                         |
|------------------|------------|---------------------|-------------------------|
| 1                | P412107    | 軸組立フライホイール          | Shaft fly wheel assy    |
| 2                | 6M60200401 | トラス小ネジ M620-4       | Screw truss M620-4      |
| 3                | P412103    | 押エ板ボールベアリング         | Pressing plate bearing  |
| 4                | 6B2208003  | ボールベアリング L-1280ZZ   | Ball bearing L-1280ZZ   |
| 5                | 6M71200405 | ナベ小ネジ M7120-4       | Screw pan M7120-4       |
| 6                | 4P31862    | サウンドレンズ組立品          | Sound lens assy         |
| 7                | 4K00173    | シリコンフォトダイオード        | Silicon photo diode     |
| 8                | P412099    | カバーフォトダイオード         | Cover photo diode       |
| 9                |            |                     |                         |
| 10               | 6NM19040F  | 特殊ナット M4.0          | Special nut M4.0        |
| 11               | P412050    | ホルダエキサイタランプ         | Holder exciter lamp     |
| 12               | 6MT0200301 | 止メネジ M20-3          | Set screw M20-3         |
| 13               | 6B2106001  | ボールベアリング SSL-1260ZZ | Ball bearing SSL-1260ZZ |
| 14               | P410153    | ナットホルダフライホイール       | Fly wheel holder nut    |
| 15               | 6MT4300305 | 六角穴止メネジ M30-3       | Set screw hexagon M30-3 |



### 3. Disassembly

- (1) Remove Fig. 17-1,4 by detaching Fig. 17-2,3.
- (2) Remove Fig. 17-13 by loosening Fig. 17-12 and detaching Fig. 17-14.
- (3) Remove Fig. 17-26 by detaching Fig. 17-25.
- (4) Remove Fig. 17-29 by detaching Fig. 17-27,28.
- (5) Remove Fig. 17-19 by detaching Fig. 17-18,17.
- (6) After ends of lead wires of Fig. 17-21 are unsoldered, remove Fig. 17-23 by detaching Fig. 17-24,22.
- (7) Remove Fig. 17-21 by detaching Fig. 17-20x2.
- (8) Remove Fig. 17-11 by detaching Fig. 17-9,10.
- (9) After Fig. 17-5x2 are detached, remove Fig. 17-7 by detaching Fig. 17-8.
- (10) Remove Fig. 17-6 by loosening Fig. 17-15.

Note: Above (1) - (4) four steps can be done without dismounting of Sound Base Plate.  
Do not remove Fig. 17-16 as it is impossible to restore it to the original position without using special tool.

### 4. Assembly

Follow the reverse way of the above steps, paying attention to the following point.

- (1) Adjust the position of Fig. 17-6,7,11,21,26. (Refer to X-1)

|    |            |                |                       |
|----|------------|----------------|-----------------------|
| 16 | P412233    | ホルダサウンドレンズ     | Holder sound lens     |
| 17 | 6QEA0060   | E リング ER-6     | E-ring ER-6           |
| 18 | 4P55549    | バネパッドローラ       | Spring pad roller     |
| 19 | P412056    | レバーパッドローラ      | Lever pad roller      |
| 20 | P412095    | ネジヘッド          | Screw head            |
| 21 | P410607    | 録音再生ヘッド WY-020 | Sound head WY-020     |
| 22 | 4P54451    | セレクタレバー軸       | Selector lever shaft  |
| 23 | P412093    | レバー組立ヘッド       | Lever head assy       |
| 24 | 4P55540    | バネヘッドレバー       | Spring head lever     |
| 25 | 6NM19040F  | 特殊ナット M4.0     | Special nut M4.0      |
| 26 | P412105    | 制動ローラ(1)       | Brake roller 1        |
| 27 | 6M70402001 | ナベ小ネジ M740-20  | Screw pan M740-20     |
| 28 | 4P55547    | バネ制動ローラ(2)レバー  | Spring brake roller 2 |
| 29 | P412049    | レバー制動ローラ(2)    | Lever brake roller 2  |

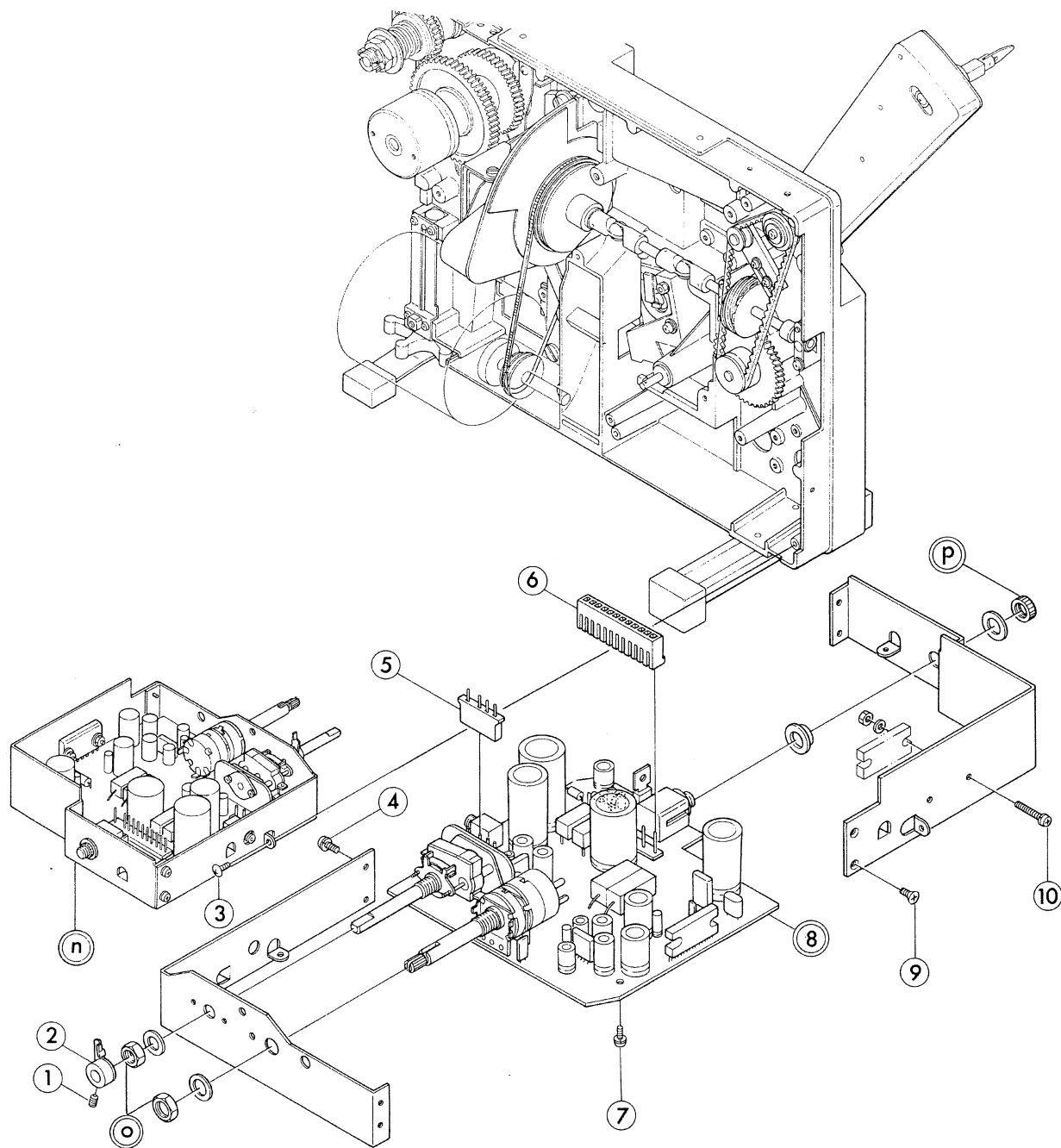


Fig. 18

| Illustration No. | Parts No.  | Parts Name        |                           |
|------------------|------------|-------------------|---------------------------|
| 1                | 6MT4300405 | 六角穴止メネジ M30-4     | Set screw hexagon M30-4   |
| 2                | P412207    | 組立レバー(2) M-O 切換   | Lever (2) M-O switch assy |
| 3                | 6M60300601 | トラス小ネジ M630-6     | Screw truss M630-6        |
| 4                | 6M7A300601 | ナベ小ネジセムスA M730-6  | Screw sems-A M730-6       |
| 5                | 5N204122   | 4Pコネクタ S-I 2502   | 4P connector S-I 2502 2   |
| 6                | 5N211022   | 11Pコネクタ 5065-11   | 11P connector 5065-11 2   |
| 7                | 6M7A300601 | ナベ小ネジセムスA M730-6  | Screw sems-A M730-6       |
| 8                | 4P8CL0008  | アンプ組立品            | Amplifier assy            |
| 9                | 6M80300601 | 平小ネジ M830-6       | Screw FL-PLS M830-6       |
| 10               | 6M7A301201 | ナベ小ネジセムスA M730-12 | Screw sems-A M730-12      |

## R. AMPLIFIER

### 1. Disassembly

- (1) Remove Fig. 1-7,8,9,15.
- (2) Remove Fig. 18-5,6.
- (3) Remove (n) in Fig. 18 by detaching Fig. 18-3x3.
- (4) After Fig. 18-1,2 are detached, remove (o) in Fig. 18 by turning it counterclockwise.
- (5) Remove Fig. 18-10x2.
- (6) Remove (p) in Fig. 18 by turning it counterclockwise.
- (7) Remove Fig. 18-7x3.
- (8) Remove Fig. 18-8 by detaching Fig. 18-4x2,9x2.

### 2. Assembly

Follow the reverse way of the above steps.

## II. ADJUSTMENT

### S. TAKE-UP REEL ARM

Take-up Reel Arm of 16-CL has following two functions, which can be adjusted at a time with the below-mentioned adjustment.

- \* Function to take up film.
- \* Function to give a sufficient back-tension to rewind film safely and smoothly.

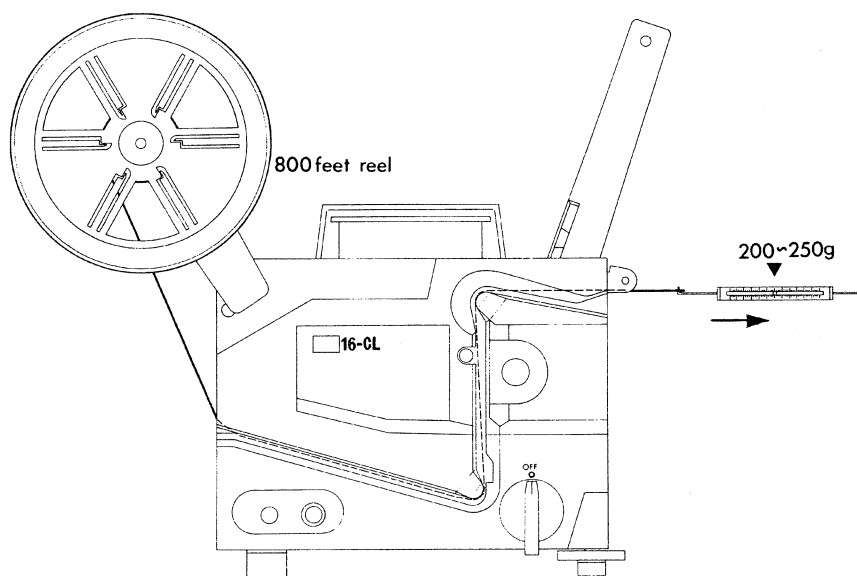


Fig. 19

#### 1. Measurement:

- (1) As illustrated in Fig. 19, set Main Knob (Fig. 1-10) at "OFF" position. And wind film on attached 800 ft Reel through Channel, and turn the reel for about 10 times by hand.
- (2) While pulling out the film in the direction of the arrow illustrated in Fig. 19, measure the tension by a tension guage. The tension is to be 200-250gr.

#### 2. Adjustment:

- (1) When Fig. 2-4 is damaged or stained with oil, etc., replace it.
- (2) Adjust the take-up tension of Fig. 2-4 by changing the tension of Fig. 2-6.
- (3) If Fig. 2-16 is stained with oil, etc., remove stains.

## T. REWINDING MECHANISM

Rewinding mechanism of 16-CL makes it possible to rewind the film through Channel quickly without any film damage as well as Reel-to-reel rewinding.

This rewinding mechanism consists of Feed Reel Arm, Delay Device (Delay Circuit, Magnet Clutch, etc.) and Slipping Mechanism.

16-CL is designed to rewind film with 70-80% lower torque than the normal torque only for 3-4 sec. after motor starts rewinding in order to prevent film damage. (Hereinafter this 3-4 sec. period is called "Delay Time".)

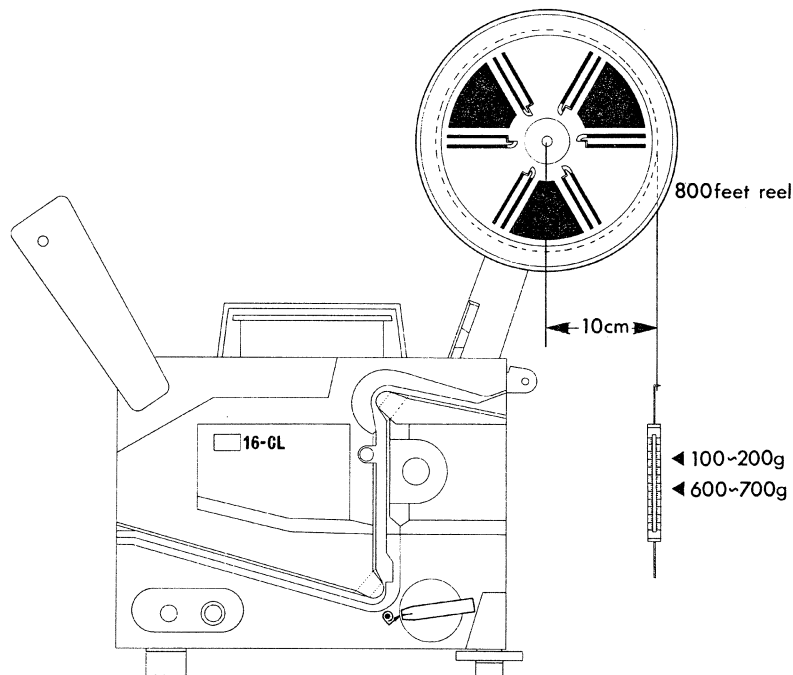


Fig. 20

### 1. Measurement:

- (1) As shown in Fig. 20, wind film on attached Reel until the diameter of wound film comes to 20cm.
- (2) Set Main Knob at "⊙" position and measure the tension as illustrated in Fig. 20.

The rewinding tension is to be the following:

- \* 100-200gr. during the delay time of 3-4 sec.
- \* 600-700gr. after this period.

## 2. Adjustment:

- (1) Adjust the tension of Fig. 3-4 by changing the position of Fig. 3-5 so that it may not slip.
- (2) Adjustment of clutch friction during the delay time of 3-4 sec:
  - \* Fix the position of Fig. 22-2 by tightening Fig. 22-4 to keep 0.3mm clearance between Fig. 22-1 and 2.
  - \* Rewinding tension is limited by the clutch friction, which is electrically controlled by R22 (Specified value: 560 ohms, Fig. 23). Large value of R22 results in less friction.
- (3) Adjustment of Delay Time:
  - \* Delay time of 3-4 sec. is originally decided by the delay circuit and no adjustment is requested.
  - \* When replacing the parts, be sure to use specified spare parts.
- (4) Adjustment of clutch friction after the delay time:
  - \* Loosen Fig. 21-1 by turning it counterclockwise.
  - \* Change the pressure of Fig. 21-3 by turning Fig. 21-2 in order to adjust the tension to 600-700gr. (Refer to Fig. 20)
  - \* After adjustment is completed, be sure to lock Fig. 21-1,2 by turning Fig. 21-1 clockwise.

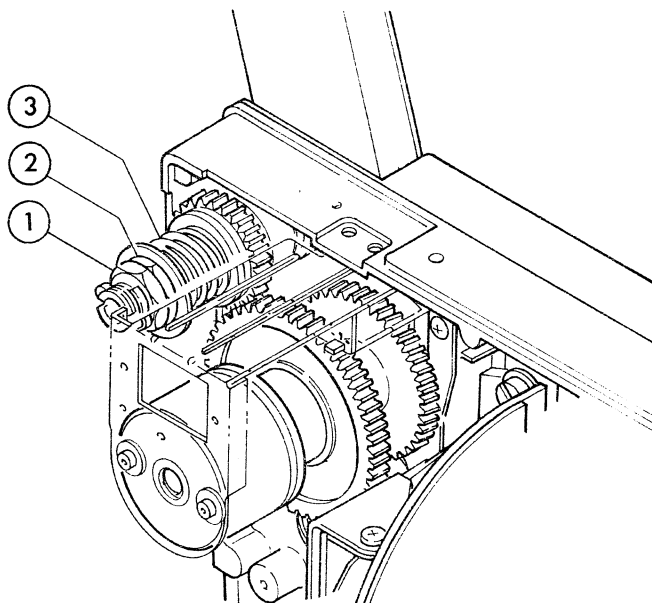


Fig. 21

| Illustration No. | Parts No. | Parts Name |                       |
|------------------|-----------|------------|-----------------------|
| 1                | 4P55599   | ナット摩擦板     | Nut friction plate    |
| 2                | 4P55599   | ナット摩擦板     | Nut friction plate    |
| 3                | 4P55600   | バネ摩擦板      | Spring friction plate |

### 3. Magnet Clutch:

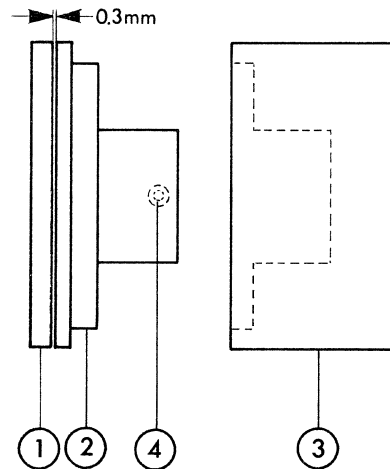


Fig. 22

| Illustration No. | Parts No.  | Parts Name    |                         |
|------------------|------------|---------------|-------------------------|
| 1                |            | クラッチ板         | Clutch plate            |
| 2                |            | ローター          | Rotor                   |
| 3                |            | マグネット         | Magnet                  |
| 4                | 6MT4400305 | 六角穴止メネジ M40-3 | Set screw hexagon M40-3 |

Magnet Clutch works in accordance with applied voltage to the clutch as follows:

- (1) Approx. 12V (for the delay time of 3-4 sec.):

Due to Delay Circuit, attractive force of Fig. 22-3 is weaker than regular force. And, for smooth and safe rewinding, slip occurs between Fig. 22-1 and 2 so that the rewinding tension may come to 100-200gr.

- (2) 37V (after the delay time):

As attractive force comes to the regular level, Fig. 22-1 rotates together with Fig. 22-2 without slip. In this instance, the tension depends on the pressure of Fig. 21-3.

#### 4. Delay Circuit:

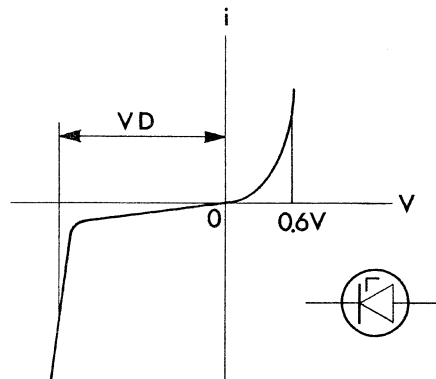
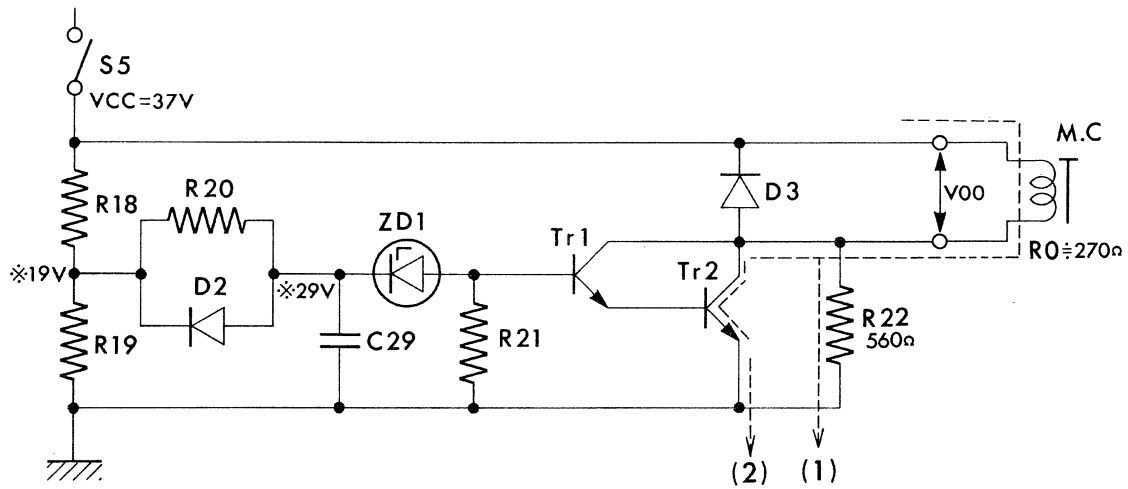


Fig. 23

The nature of Zener Diode is put to use in Delay Circuit.

Zener Diode: \* Current flows in forward direction.

\* Current does not flow in reverse direction when applied voltage is lower than a certain level which is called "Zener Voltage (VD)".

\* Current starts to flow in reverse direction when applied voltage exceeds the Zener Voltage (VD).



Immediately after S-5 is switched on, most of current flow through R22 (Route (1)).

At this time, voltage applied to Magnet Clutch (Voo) is about 12V.

(Voo is calculated as  $V_{oo} = V_{cc} \times \frac{R_o}{R_o + R_{22}}$ ).

After S-5 is switched on, C29 is charged with the current through R20 and when the terminal voltage of C29 exceeds the Zener Voltage of ZD1, current starts to flow through ZD1, Tr1 and Tr2.

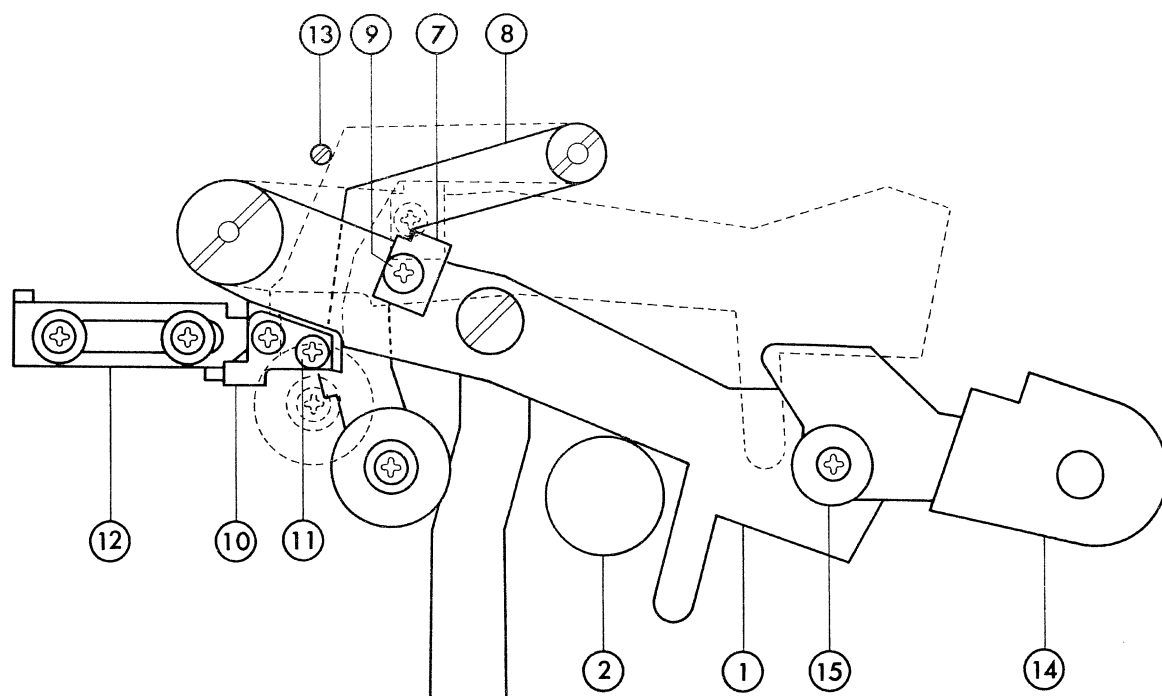
The current, which flows through R22 during the delay time, turns to flow through Tr2.

In the end, all current flow through Tr2 as the Equivalent Resistance of Tr2 comes to nearly zero.

At this time, Voo is calculated as  $V_{oo} = 37 \times \frac{270}{0 + 270} = 37V$ ,

i.e., Vcc of 37V is supplied to Magnet Clutch.

16-CL is so designed that it takes about 3-4 seconds to increase Voo from 12V to 37V (Delay Time).



| Illustration No. | Parts No.  | Parts Name       |                        |
|------------------|------------|------------------|------------------------|
| 1                | 4P31827    | レバースプロケットシュー     | Lever sprocket shoe    |
| 2                |            | メタルスプロケット        | Metal sprocket         |
| 3                | 4P31836    | 連程(1)            | Link 1                 |
| 4                | P412173    | カム連程(1)          | Cam link 1             |
| 5                | P412166    | ホルダリンク(3)        | Holder link 3          |
| 6                | 6M7B400801 | ナベ小ネジセムB M740-8  | Screw sams-B M740-8    |
| 7                | P412344    | 押エ板レバーガイドローラ(2)  | Plate guide roller 2   |
| 8                | P412157    | レバー組立ガイドローラ(2)   | Lever guide roller 2   |
| 9                | 6M60300601 | トラス小ネジ M630-6    | Screw truss M630-6     |
| 10               | P412216    | ストッパガイドローラ(2)    | Stopper guide roller 2 |
| 11               | 6M60250401 | トラス小ネジ M625-4    | Screw truss M625-4     |
| 12               | P412204    | ストッパレバーガイドローラ(2) | Stopper lever roller 2 |
| 13               | 4P55344    | ピンアームロック         | Arm lock pin           |
| 14               | 4P31886    | カバーガイドローラ(1)     | Cover guide roller 1   |
| 15               | 4P55571    | 間座取付板ガイドローラ(1)   | Washer holder roller 1 |
| 16               | P412123    | ホルダ(1)スイッチカム     | Holder (1) switch cam  |

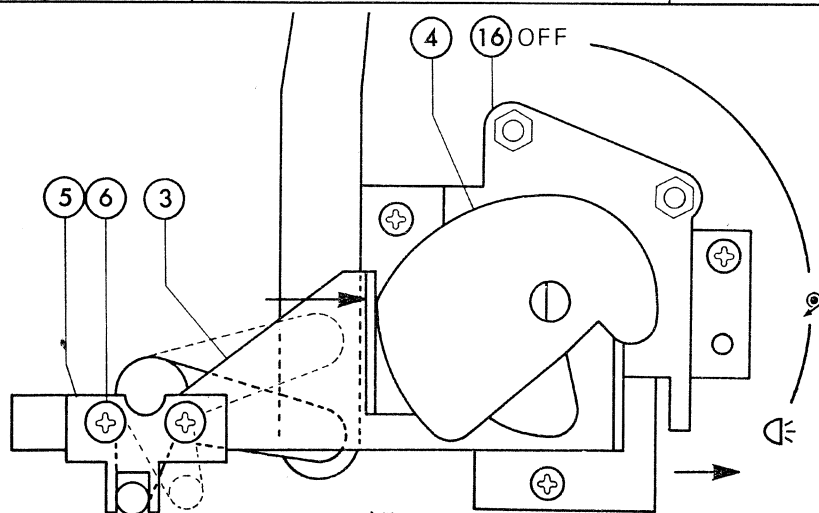


Fig. 24

## U. LEVER

When Main Knob is set at "☉" or "☾" position, levers in 16-CL are pressed to each specified direction only by springs and do not interfere each other. So movable rollers at "☉" or "☾" keep correct position even after long use. Therefore, no adjustment of levers interlocked with Link (1) is requested except for Fig. 24-3,5,7,10.

### 1. Adjustment:

Check and adjust levers in the following order.

- (1) Location of Lever Sprocket Shoe (Fig. 24-1) when Main Knob is set at "☉" position:
  - \* Set Main Knob at "☉" position.
  - \* Fix Fig. 24-5 with Fig. 24-6x2, pushing Fig. 24-3 towards Fig. 24-4 and Fig. 24-5 towards the opposite direction of Fig. 24-4.
  - \* And after Main Knob is turned several times, make certain that there is no excessive clearance than 0.4mm between Fig. 24-1 and 2 at "☉" position.
- (2) Location of Lever Sprocket Shoe (Fig. 24-1) when Main Knob is set at "OFF" or "☾" position:
  - \* After the adjustment (1) is completed, set Main Knob at "OFF" position.
  - \* Fix Fig. 24-7 by tightening Fig. 24-9 at the position that Fig. 24-8 may slightly touch Fig. 24-13.
  - \* Location of Lever Sprocket Shoe at "☾" position can be automatically adjusted with the above steps.
- (3) Location of Stopper Guide Roller 2 (Fig. 24-10):
  - \* Fig. 24-8 forms the upper film loop, and Fig. 24-10 sets Fig. 24-8 free from Fig. 24-12.
  - \* Adjust the position of Fig. 24-10 by moving it to right or left so that, when turning Main Knob clockwise from "OFF", Main Knob may be held in "☉" position just after film perforation fits onto the tooth of First Sprocket (Fig. 8-5).
- (4) When attaching Fig. 24-14, adjust the position of Fig. 24-14 so that it may not touch 2000 ft Reel when Main Knob is set at "OFF" position.
- (5) Turn Fig. 24-15 counterclockwise so that the tension on Fig. 24-14 may come to 50-80gr. (Refer to F-2)
  - Note: If tension on Fig. 24-14 is not enough, film gets out of First Sprocket and it causes the length of upper film loop to be shortened.
- (6) When Fig. 24-16 is removed or replaced, fix Fig. 24-16, pushing it in the direction of the arrow illustrated in Fig. 24.

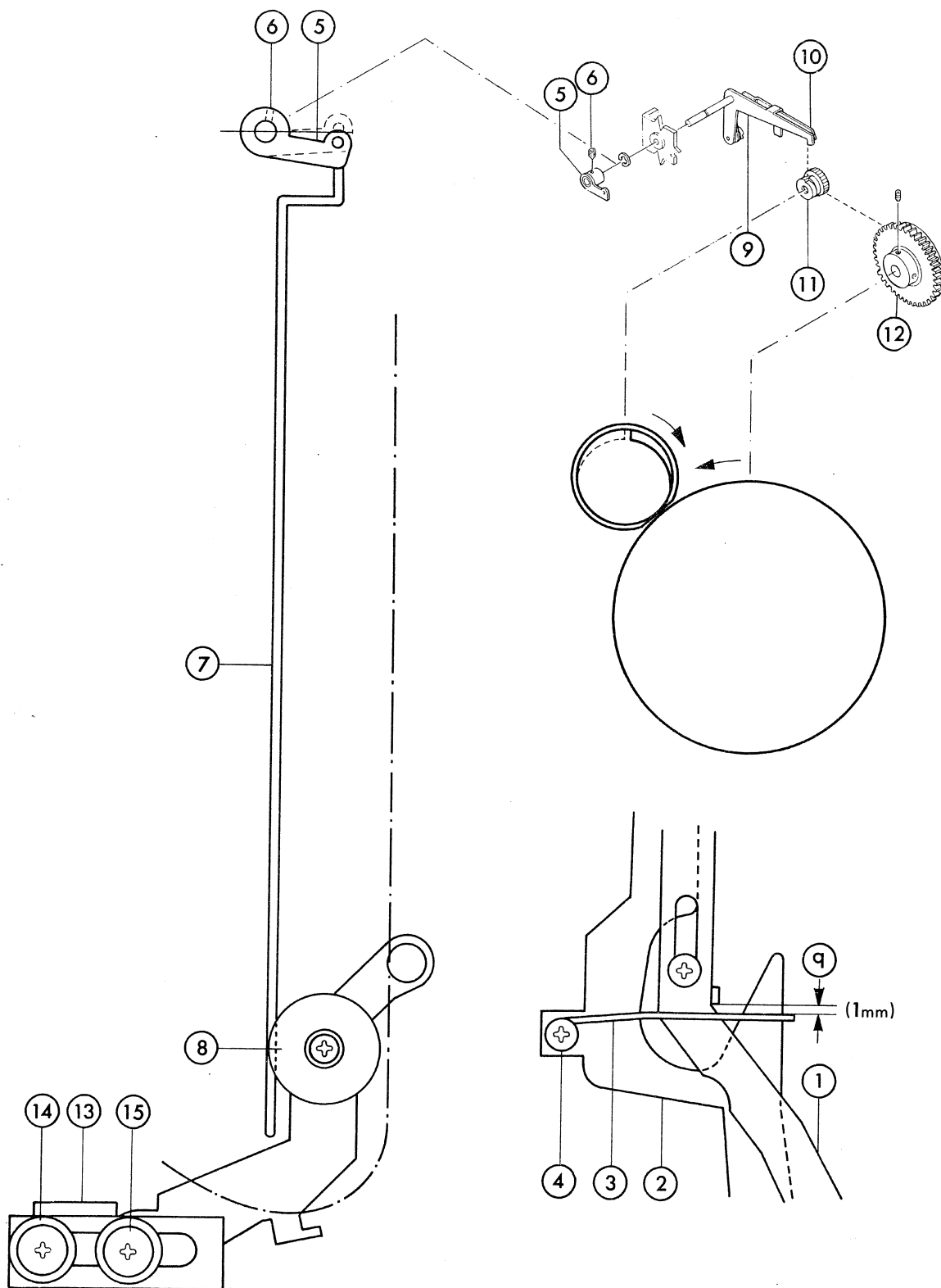


Fig. 25

## V. LOOP RESTORER

Loop Restorer works as under:

- \* The length of lower Film Loop is shortened.
- \* Fig. 25-7 is pushed up by film.
- \* Free-end of Fig. 25-5 is pushed up by Fig. 25-7.
- \* Claw of Fig. 25-9 moves upwards.
- \* Fig. 25-11 is set free from the claw of Fig. 25-9 and at the same time Fig. 25-10 pushes Fig. 25-11. Then Fig. 25-11 rotates slightly.
- \* Fig. 25-11 touches Fig. 25-12 which is rotating, and rotates one revolution.
- \* Fig. 25-1, which is interlocked with Fig. 25-11, is pushed down.
- \* Fig. 25-8, which is interlocked with Fig. 25-1, is pushed down and reforms an adequate loop.

### 1. Adjustment:

#### (1) Spring Link 1 (Fig. 25-3):

- \* Set Main Knob at "9" position.
- \* Adjust the position of Fig. 25-3 to keep approx. 1mm distance in (q) in Fig. 25 and fix Fig. 25-3 with Fig. 25-4.
- \* Make certain that the distance (q) in Fig. 25 is maintained after Loop Restorer works several times.

#### (2) Holder Link (2) Assy (Fig. 25-5):

- \* Shorten the length of the lower film loop by pulling up the upper film loop by finger, while feeding the film.
- \* Adjust the position of Fig. 25-5 so that film may touch the lower end of Fig 25-7 before Fig. 25-8 starts rotating and that loop restorer may work smoothly.
- \* In practice, push Fig. 25-5 up to the highest position and fix Fig. 25-6 slightly.
- \* Shorten the length of lower film loop by finger so that film may be about to touch Fig. 25-8.
- \* Then bring down Fig. 25-7 by hitting Fig. 25-5 slightly with screwdriver, etc. to the position that Loop Restorer starts working, and fix Fig. 25-6.

- \* If Loop Restorer does not work at the time Fig. 25-7,8 vibrate even after the said adjustment, firstly adjust Fig. 25-7 so that it may smoothly move.
- \* And loosen Fig. 8-14 and adjust the position of Fig. 8-12 (Sprocket) by turning it clockwise or counterclockwise. (Refer to H-1)
- \* Be sure to check the function of Loop Restorer at both "M" and "0" reproductions.

Note: Loop Restorer should start working when about 20gr. pressure is given to the lower end of Fig. 25-7.

(3) Plate Guide Roller 3 (Fig. 25-13):

- \* Fig. 25-8 forms the lower film loop when Main Knob is turned from "OFF" to "●" positions.
- \* Adjust the position of Fig. 25-13 so that Fig. 25-8 may locate at the lowest position in order to form sufficient lower film loop.
- \* In practice, adjust Fig. 25-13 by turning Fig. 25-14x2 and fix it with Fig. 25-15x2 at the position that Fig. 25-13 locates at the lowest position and that Fig. 25-13 moves smoothly.
- \* Check and adjust the position of Fig. 25-13 so that, when turning Main Knob from "OFF" to "●", Fig. 25-8 may be set free after film is engaged in Sprocket.

| Illustration No. | Parts No.  | Parts Name        |                         |
|------------------|------------|-------------------|-------------------------|
| 1                | 4P31849    | リンク(1)ループセッタ      | Link (1) loop setter    |
| 2                | 4P31850    | リンク(1)スプロケットシュー   | Link (1) sprocket shoe  |
| 3                | 4P55592    | バネリンク(1)スプロケットシュー | Spring link 1           |
| 4                | 6M60300501 | トラス小ネジ M630-5     | Screw truss M630-5      |
| 5                | P412129    | ホルダ組立リンク(2)       | Holder link (2) assy    |
| 6                | 6MT4300305 | 六角穴止メネジ M30-3     | Set screw hexagon M30-3 |
| 7                | P412202    | リンク(2)ループセッタ      | Link (2) loop setter    |
| 8                | P412209    | ガイドローラ(3)         | Guide roller 3          |
| 9                | P412352    | レバー組立ループセッタ       | Lever loop setter assy  |
| 10               | P412352    | レバー組立ループセッタ       | Lever loop setter assy  |
| 11               | P412237    | 摩擦車(2)ループセッタ      | Friction wheel 2        |
| 12               | P412270    | ウォームギヤ(1)組立品      | Worm gear (1) assy      |
| 13               | P412206    | 押エ板レバーガイドローラ(3)   | Plate guide roller 3    |
| 14               | 4P55575    | 間座押エ板ガイドローラ(3)    | Washer guide roller 3   |
| 15               | 6M60400601 | トラス小ネジ M640-6     | Screw truss M640-6      |

## W. CLAW SECTION

### 1. Adjustment:

- (1) Adjust the attaching position of Fig. 12-14 so that Fig. 12-25 may smoothly rotate without end-play to (r) direction.
- (2) Adjust the pressure of Fig. 12-29 or replace Fig. 12-16, 29 so that Fig. 12-16 may closely contact with Fig. 12-19 and may smoothly move.
- (3) Adjust the pressure of Fig. 12-30 so that Fig. 12-28 may always contact with Fig. 12-26.
- (4) Measure the tension to (s) direction in Fig. 12 at the attaching position of Fig. 12-18 by a tension gauge.

Adjust the pressure of Fig. 12-30 so that the said tension may be 300gr.

The measurement and adjustment should be done without attaching Fig. 12-16.

- (5) Adjust the protrudent length of tip of Fig. 12-18 from Fig. 12-6 to be 1mm. Then Fig. 12-18 should be at the center of film perforations.
- (6) Adjust the attaching position of Fig. 12-5 or bend (y) in Fig. 12 so that momentums of a picture in the both directions may be equal. Then Fig. 12-1 should not only closely contact with (y) in Fig. 12 but also smoothly move.
- (7) Adjust the timing between Fig. 12-18 and 24 so that Fig. 12-24 may intercept the projection light when Fig. 12-18 feeds film. Make certain that picture does not flow.
- (8) Fig. 12-17, 18 should be replaced as a unit because Fig. 12-18 is fixed to Fig. 12-17 tightly with adhesive.
- (9) Stroke of Fig. 12-18 is to be 7.65-7.67mm.

Use undeveloped film for check and adjustment of the stroke.

Just before Fig. 12-18 starts feeding the film, protrudence of Fig. 12-18 from Fig. 12-6 should be maximum, and two tips of Fig. 12-18 should be closest to the lower edge of film perforations. And when two tips of Fig. 12-18 go into and out film perforations, they should not touch film perforations.

To adjust the stroke, change the attaching position of Fig. 12-16 by enlarging its center hole with a reamer or file.

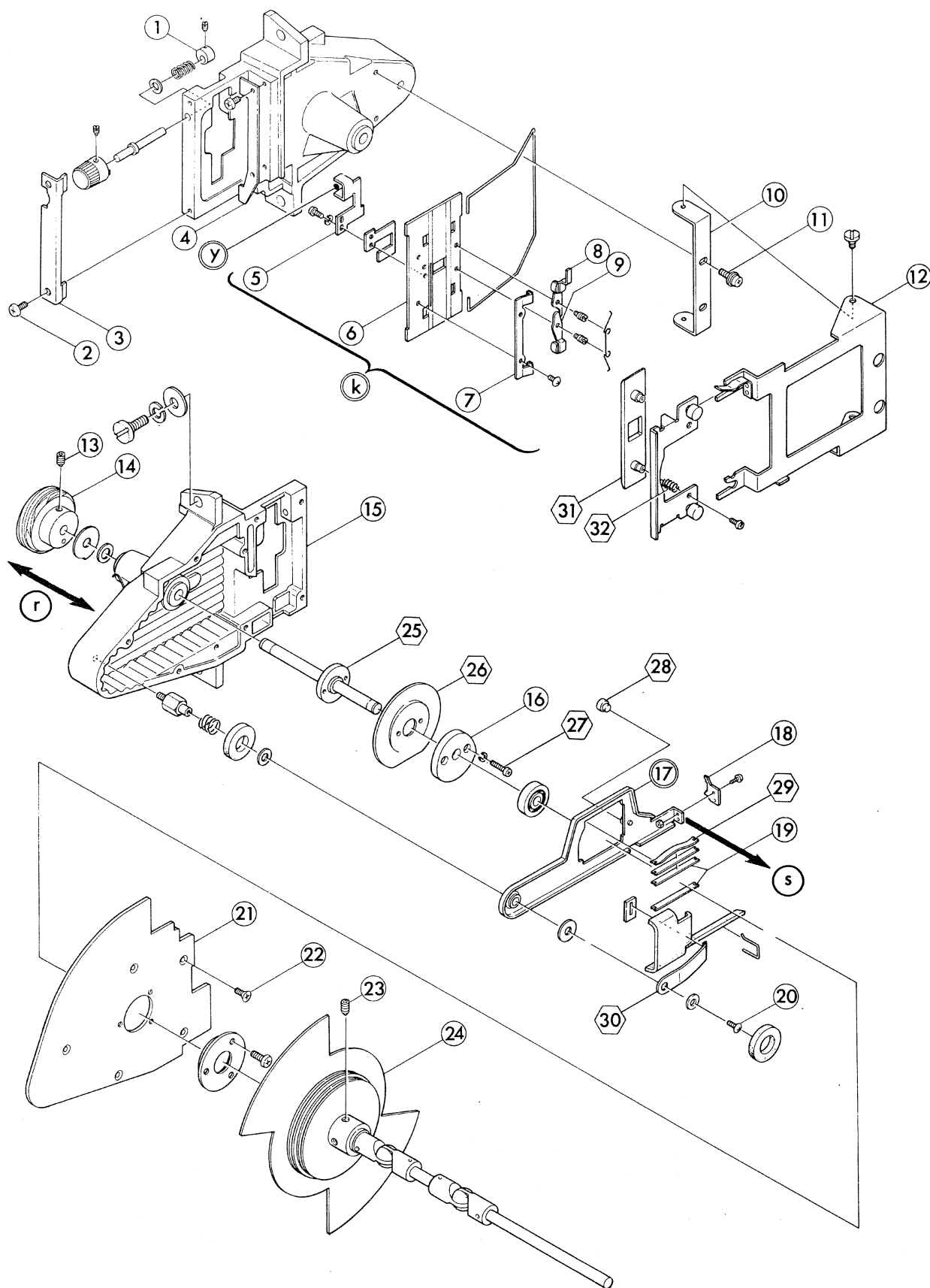


Fig. 12



For example, when the position of Fig. 12-16 is changed by 1/100mm, the stroke of Fig. 12-18 becomes longer or shorter by 4/100mm (4 times of changed distance).

Shorter stroke than the proper one causes film jumping, and longer stroke causes loud feeding mechanism noise.

- (10) When attaching Fig. 12-21, apply Liquid Gasket (semidrying type) on contacting surfaces of Fig. 12-21,15.
- (11) When attaching Fig. 12-4, adjust the position of Fig. 12-4 so that Fig. 12-6 may closely contact with Fig. 12-4 and move smoothly.
- (12) When attaching Fig. 12-7, adjust the position of Fig. 12-7 so that the center of aperture opening of Fig. 12-6 may coincide correctly with that of film frame, using standard test film such as SMPTE TEST FILM 16RT RP20 (REGISTRATION TARGET).
- (13) Fig. 12-8,9 should work independently without any interference. So keep about 0.3mm clearance between Fig. 12-8 and 9 when film is loaded between Fig. 12-7 and 8,9.
- (14) Adjust Fig. 12-8,9,12 so that Fig. 12-8,9 may move as follows:

When Main Knob is set at "OFF" position, Fig. 12-8,9 move in the opposite direction of Fig. 12-7 for easy film loading.

When Main Knob is set at "●" or "⌂" position, Fig. 12-8,9 move towards Fig. 12-7 to press the film-side.

## X. SOUND BASE PLATE

### 1. Adjustment:

Adjust Sound Base Plate as follows:

#### (1) Location of Brake Roller 1 (Fig. 26-1):

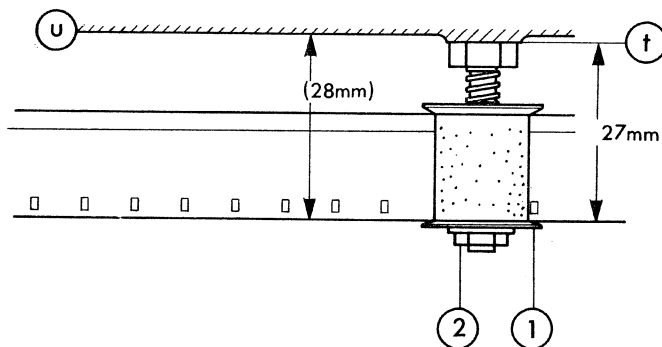


Fig. 26

| Illustration No. | Parts No. | Parts Name |                  |
|------------------|-----------|------------|------------------|
| 1                | P412105   | 制動ローラ (1)  | Brake roller 1   |
| 2                | 6NM19040F | 特殊ナット M4.0 | Special nut M4.0 |

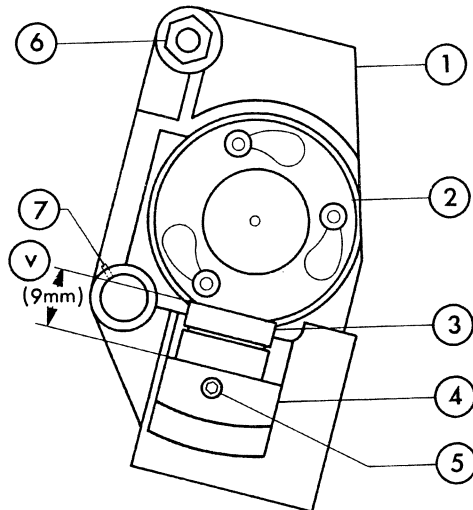
Adjust the position of Fig. 26-1 to keep 27mm distance from the perforation-side end of film to the attaching mount of Fig. 26-1 ((t) in Fig. 26).

(To claw section and both sprockets, above 27mm distance is applied.)

In practice, adjust the position of Fig. 26-1 by turning special Nut M4.0 so that the distance from the perforation-side end of film to Base Frame ((u) in Fig. 26) may come to 28mm.

Note: Fig. 26-1 also functions as Impedance Roller and maladjustment of Brake Roller 1 gives bad influence upon Sound Quality (Wow & Flutter, etc.).

(2) Adjustment of Bazz Track:



Set the volume control at maximum position, and run a Bazz Test Film such as SMPTE TEST FILM (P16BT BUZZ TRACK).

Loosen Fig. 27-7 and adjust the position of Fig. 27-1 by turning Fig. 27-6 clockwise or counter-clockwise so that the level of output power may be minimized.

After the adjustment, tighten Fig. 27-7 and fix it by applying adhesive.

Fig. 27

| Illustration No. | Parts No.  | Parts Name              |                             |
|------------------|------------|-------------------------|-----------------------------|
| 1                | P412050    | ホルダエキサイタランプ             | Holder exciter lamp         |
| 2                | 4E41580    | エキサイタランプ KE-04 4V-0.75A | Exciter lamp KE-04 4V-0.75A |
| 3                | 4P31862    | サウンドレンズ組立品              | Sound lens assy             |
| 4                | P412233    | ホルダサウンドレンズ              | Holder sound lens           |
| 5                | 6MT4300305 | 六角穴止メネジ M30-3           | Set screw hexagon M30-3     |
| 6                | 6NM19040F  | 特殊ナット M4.0              | Special nut M4.0            |
| 7                | 6MT0200251 | 止メネジ M20-2.5            | Set screw M20-2.5           |

(3) Adjustment of Azimuth for Optical Reproduction:

Load 7,000Hz Test Film such as SMPTE TEST FILM (P16SFA SOUND FOCUSING) and set Main Knob at "9" position.

First, adjust the protrudent length of Fig. 27-3 from Fig. 27-4 to be about 9mm ((v) in Fig. 27).

Adjust the position of Fig. 27-4 by turning Fig. 27-3 so that the maximum output power may be obtained, and fix Fig. 27-3 by tightening Fig. 27-5.

Do not move Fig. 27-4 as it is originally fixed at correct position, using standard optical axis gauge.

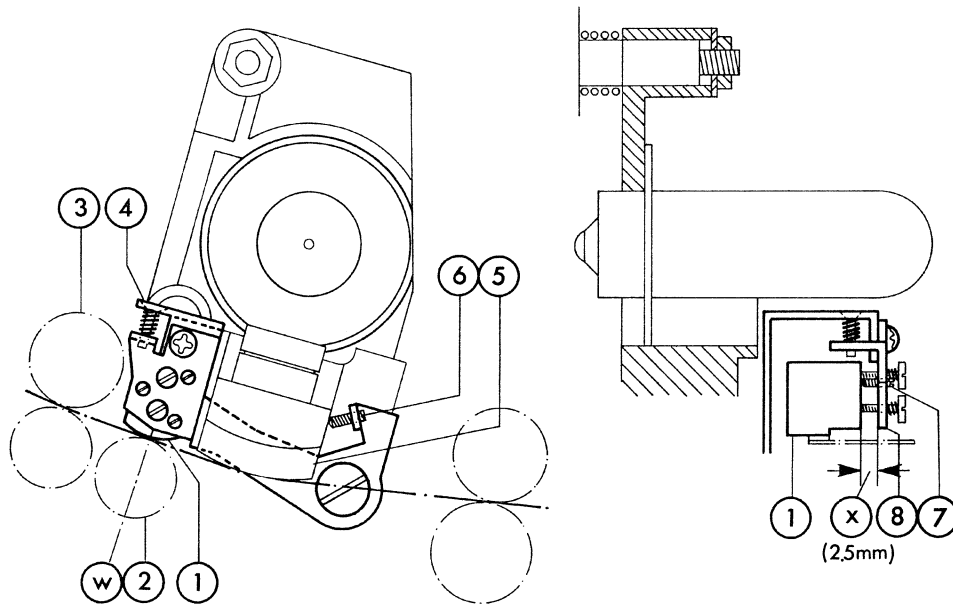


Fig. 28

| Illustration No. | Parts No.  | Parts Name        |                       |
|------------------|------------|-------------------|-----------------------|
| 1                | P410607    | 録音再生ヘッド WY-020    | Sound head WY-020     |
| 2                | P412114    | パットローラ組立品         | Pad roller assy       |
| 3                | P412107    | 軸組立フライホイール        | Shaft fly wheel assy  |
| 4                | 6M71200701 | ナベ小ネジ M712-7      | Screw pan M712-7      |
| 5                | P412251    | フィルムガイドホルダサウンドレンズ | Film guide sound lens |
| 6                | 6MT0200601 | 止メネジ M02-6        | Set screw M02-6       |
| 7                | 6MT0200601 | 止メネジ M02-6        | Set screw M02-6       |
| 8                | P412096    | 取付板ヘッド            | Holder head           |

(4) Adjustment of Azimuth of Magnetic Recording/Playback Head:

- \* Adjust the position of Fig. 28-1 so that Fig. 28-1 may position about 0.2mm lower from the assumed film path.

In practice, put a plastic ruler on Fig. 28-3 and 5, and adjust Fig. 28-1 by turning Fig. 28-6 so that Fig. 28-1 may slightly touch the ruler.

Next, move Fig. 28-1 about 0.2mm towards Fig. 28-2 by turning Fig. 28-6 counterclockwise.

Note: Unless Fig. 28-1 is fixed at proper position, it causes the below-mentioned troubles and gives bad influence upon Sound Quality (Wow/Flutter, Frequency Response, etc.).

- (a) Film sags
- (b) Untouch or unstable head-touch of Sound Track

So use best care to keep proper position of Fig. 28-1.

- \* Adjust the position of Fig. 28-1 by turning Fig. 28-4 so that the center of Fig. 28-1 may coincide with the center line of Fig. 28-2 ((w) in Fig. 28).

- \* Adjust the distance between Fig. 28-1 and 8 ((x) in Fig. 28) to be about 2.5mm by turning Fig. 28-7x3, and load a film.

Readjust the position of Fig. 28-1 by turning Fig. 28-7x3 slightly so that Fig. 28-1 may locate at the correct position against magnetic sound track.

Make certain that Fig. 28-1 may not interfere with picture.

- \* Running 7,000Hz Test Film such as SMPTE TEST FILM (M16AL AZIMUTH ALIGNMENT, 7,000HZ), adjust the position of Fig. 28-1 by turning Fig. 28-7x3 so that the maximum output power may be achieved.

After the adjustment, fix Fig. 28-7x3 with adhesive.

### III. TROUBLE SHOOTING

#### TAKE-UP & FEED REEL ARMS

| Case                                                                                             | Checking Point                     | Step                                                                               | Ref.  |
|--------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------|-------|
| Take-up torque is insufficient                                                                   | Belt Take-up Arm (Fig.2-4)         | If Fig.2-4 is defective, replace it.                                               | B, S  |
|                                                                                                  | Brake Spring Take-up (Fig.2-6)     | If the pressure of Fig.2-6 is insufficient, increase it.                           | B     |
|                                                                                                  | Shaft Take-up Assy (Fig.2-16)      | If the friction of Fig.2-16 is not proper, replace it.                             | S     |
|                                                                                                  | V Belt Take-up (Fig.2-11)          | If the tension of Fig.2-11 is insufficient, increase it                            | B     |
|                                                                                                  | Rewind Square Shaft Assy (Fig.3-3) | If the friction of Fig.3-3 is not proper, adjust it by Fig.3-5 or replace Fig.3-4. | C     |
| Film hangs down in front of the Projection Lens during projection or when projection is stopped. | Synchronous Belt 206 (Fig.3-4)     | If the tension of Fig.3-4 is insufficient, increase it.                            | C     |
|                                                                                                  | Brake Spring Rewind (Fig.3-12)     | If the pressure of Fig.3-12 is insufficient, increase it.                          | Fig.3 |
|                                                                                                  | (b) in Fig.4                       | If (b) in Fig.4 sticks to the shaft, remove stains from them.                      | Fig.4 |
| Rewinding torque is insufficient.                                                                | Synchronous Belt 206 (Fig.3-4)     | If the tension of Fig.3-4 is insufficient, increase it.                            | C     |
|                                                                                                  | Brake Spring Rewind (Fig.3-12)     | If the pressure of Fig.3-12 is insufficient, increase it.                          | Fig.3 |
|                                                                                                  | Take-up Arm Assy (Fig.2-1)         | If the rewinding friction is too strong, reduce it.                                | S     |
|                                                                                                  | Magnet Clutch (Fig.4-9)            | Adjust the slip of Fig.4-9.                                                        | T     |
|                                                                                                  | Spring Friction Plate (Fig.21-3)   | If the pressure of Fig.21-3 is insufficient, increase it.                          | T     |

CLAW SECTION & MACHINE FRAME

| Case         | Checking Point                                | Step                                                                                                            | Ref.         |
|--------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------|
| Film Jumping | Claw Assy<br>(Fig.12-17)                      | Adjust the position of Fig.12-18 against Fig.12-6.                                                              | W            |
|              |                                               | Adjust the pressure of Fig.12-30.                                                                               | W            |
|              | Triangle Cam<br>(Fig.12-16)                   | Adjust Fig.12-19 so that Fig.12-16 may closely contact with Fig.12-19 and also smoothly move.                   | W            |
|              | Triangle Cam Shaft Assy<br>(Fig.12-25)        | Adjust the position of Fig.12-14 so that Fig.12-25 may closely contact with Fig.12-15 and also smoothly rotate. | W            |
|              | Aperture Plate<br>(Fig.12-6)                  | Check the flatness of Fig.12-6. If not flat, replace it.                                                        | Fig. 12      |
|              | Pressure Plate Assy<br>(Fig.12-31)            | Adjust the pressure of Fig.12-31 by changing the pressure of Fig.12-32.                                         | W            |
|              |                                               | Adjust the position of Fig.12-12 so that Fig.12-31 may keep correct position against Fig.12-6.                  | Fig. 29      |
|              | Film Side Pressure<br>(1),(2)<br>(Fig.12-8,9) | Adjust the spring effects of Fig.12-8,9 and the relation between them.                                          | W            |
| Picture Flow | Shutter (1) Assy<br>(Fig.12-24)               | Adjust the timing between Fig.12-24 and 18.                                                                     | W            |
| Film Flow    | Claw 2<br>(Fig.12-18)                         | Adjust the protrudent length of tip of Fig.12-18 from Fig.12-6 to be 1mm.                                       | W            |
|              |                                               | Adjust Fig.12-18 to keep correct position against film perforation. If Fig.12-18 is damaged, replace it.        | W<br>Fig. 12 |
|              | Triangle Cam<br>(Fig.12-16)                   | If the claw does not have specified stroke, adjust the attaching position of Fig.12-16 or replace it.           | W            |
|              | Film Side Pressure<br>(1),(2)<br>(Fig.12-8,9) | Adjust the spring effects of Fig.12-8,9 and the relation between them.                                          | W<br>Fig. 29 |
|              | Pressure Plate Assy<br>(Fig.12-31)            | Make certain that Fig.12-31 closely contacts with Fig.12-6.                                                     | W            |

CLAW SECTION & MACHINE FRAME (Cont'd)

| Case                                | Checking Point                        | Step                                                                                                                                    | Ref. |
|-------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------|
| Loud Feeding Noise                  | Triangle Cam (Fig.12-16)              | Adjust the stroke of claw by changing the attaching position of Fig.12-16 or by replacing it.                                           | W    |
|                                     | Claw 2 (Fig.12-18)                    | Adjust Fig.12-18 so that Fig.12-18 may make a right angle with film perforation by bending the free-end of Fig.12-17.                   | W    |
|                                     | Slide Plate Claw (Fig.12-19)          | Adjust Fig.12-19 so that Fig.12-16 may closely contact with Fig.12-19 and also smoothly move.                                           | W    |
|                                     | Spring Claw (Fig.12-30)               | Adjust the pressure of Fig.12-30.                                                                                                       | W    |
| Masking                             | Masking Guide (Fig.12-5)              | Adjust Fig.12-5 so that Fig.12-1 may closely contact with (y) in Fig.12 and also smoothly move.                                         | W    |
| Film Scratching                     | Aperture Plate, etc. (Fig.12-6), etc. | Check all parts which contact with loaded film. They should be neither injured nor stained.                                             |      |
| Upper Film Loop increases in length | Claw 2 (Fig.12-18)                    | If claw does not feed the film smoothly because of short protrudent length of tip of Fig.12-18, adjust the protrudent length to be 1mm. | W    |
| Upper Film Loop decreases in length | Lever Guide Roller 2 (Fig.24-8)       | Adjust Fig.24-8 to work properly.                                                                                                       | U    |
|                                     | Cog First Sprocket (Fig.8-5)          | Adjust Fig.8-5 so that Fig.8-5 may coincide with the center of film perforation.                                                        | U    |
| Lower Film Loop decreases in length | Claw 2 (Fig.12-18)                    | Adjust the protrudent length of tip of Fig.12-18 from Fig.12-6 to be 1mm.                                                               | W    |
|                                     | Link (2) Loop Setter (Fig.25-7)       | Adjust Loop Restorer so that it may work properly.                                                                                      | 0    |



# PROJECTION LAMP & LENS

| Case                     | Checking Point                     | Step                                                                                                                                                                                               | Ref.               |
|--------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Lamp does not light      | Lamp (Fig.13-1)                    | If lamp itself is defective, replace it.                                                                                                                                                           | Fig.13             |
|                          | Lamp Socket QEX-7 (Fig.13-2)       | If Fig.13-2 has insufficient contact, replace it.                                                                                                                                                  | Fig.13             |
|                          | Lamp Switch S4                     | If S4 is defective, replace it.                                                                                                                                                                    | Fig.15<br>30<br>31 |
|                          | Lamp Switch S6 (Fig.15-4)          | If Fig.15-4 is defective, replace it.                                                                                                                                                              | Fig.15<br>30<br>31 |
|                          | Transformer (1) Assy (Fig.15-3)    | If Fig.15-3 is defective, replace it.                                                                                                                                                              | P                  |
| Dark Image               | Lamp (Fig.13-1)                    | If brightness is not enough due to long-use, replace Fig.13-1.                                                                                                                                     | Fig.13             |
|                          | Lamp Socket QEX-7 (Fig.13-2)       | Adjust the position of lamp by moving Fig.13-2.<br>If the terminal voltage of Fig.13-2 is less than the rated value, check Fig.15-3, etc. and replace the defective parts.                         | Fig.13             |
| Uneven Screen Brightness | Lamp Socket QEX-7 (Fig.13-2)       | Adjust the position of Fig.13-2 so that most bright and leveled screen brightness may be achieved.                                                                                                 | Fig.13             |
| Uneven Screen Focusing   | Aperture Plate (Fig.12-6)          | Adjust the position of Fig.12-6 so that Fig.12-6 may be attached to Fig.12-15 properly and also film may be pressed to Fig.12-6 properly by Fig.12-31. (Film should closely contact with Fig.12-6) | Fig.12             |
|                          | Holder Projection Lens (Fig.13-12) | If correct optical axis cannot be achieved due to damaged Fig.13-12, replace it.                                                                                                                   | Fig.13             |

# MOTOR & TRANSFORMER

| Case                              | Checking Point                  | Step                                                                                                           | Ref.          |
|-----------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------|---------------|
| Projector does not run.           | Power Cord, Main Fuse (F1)      | If Power Cord or Main Fuse is defective, replace it.                                                           | Fig. 30<br>31 |
|                                   | Transformer (1) Assy (Fig.15-3) | If the terminal voltage of Fig.15-3 which is applied to motor is less than the rated value (100V), replace it. | "             |
|                                   | Motor Switch (S1, S2, S3)       | If motor switch is defective, replace it.                                                                      | "             |
|                                   | Starting Condenser (CM1, CM2)   | If starting condenser or resistor is defective, replace it.                                                    | "             |
|                                   | Relay (RY)                      | If relay is defective, replace it.                                                                             | "             |
|                                   | Motor                           | If motor is defective (insufficient torque, broken wire, etc.), replace it.                                    | 0             |
| Projector runs slowly.            | Transformer (1) Assy (Fig.15-3) | If the terminal voltage of Fig.15-3 which is applied to motor is less than the rated value (100V), replace it. | Fig. 30<br>31 |
|                                   | Motor                           | If motor torque is insufficient, replace it.                                                                   | 0             |
|                                   | Pulley (1) Motor (Fig.14-7)     | If slip occurs between Fig.14-1 and 7, adjust it.                                                              | 0             |
|                                   | V Belt Main 3M375 (Fig.14-1)    | If the tension of Fig.14-7 is too tight, adjust it.                                                            | 0             |
|                                   | Claw Section, etc.              | Adjust the load at main parts such as Claw Section, if over-loaded.                                            |               |
| Projector does not run inversely. | Motor Switch (S2, S3)           | If motor switch is defective, replace it.                                                                      | Fig. 30<br>31 |

## SOUND

| Case                                                 | Checking Point                                              | Step                                                                                                                                               | Ref.         |
|------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Neither Optical nor Magnetic Film can be reproduced. | Power Cord, Fuse (F1)                                       | If power cord or fuse is defective, replace it.                                                                                                    | Fig.30<br>31 |
|                                                      | Amplifier Fuse (F2)                                         | If amplifier fuse is defective, replace it.                                                                                                        | "            |
|                                                      | Transformer (1) Assy (Fig.15-3)                             | If the terminal voltage of Fig.15-3 which is applied to Amplifier is less than the rated voltage (29V) due to broken wire, etc., replace Fig.15-3. | "            |
|                                                      | Speaker 8 ohms (Fig.4-6)                                    | If Fig.4-6 is defective, replace it.                                                                                                               | Fig.4        |
|                                                      | Connector (CN1-5,7,8; CN2-1,2,3,4,5), Switch (SW1-2, SW2-1) | Check the conduction of connectors and switches.<br>If not conduct, replace it.                                                                    | Fig.31<br>32 |
|                                                      | Amplifier                                                   | Check the voltages in comparison with the voltage checking points. If the unusual voltage would be measured, replace amplifier.                    | Fig.29       |
|                                                      | REC1                                                        | If REC1 is defective, replace it.                                                                                                                  | Fig.32       |
| Optical Film cannot be reproduced.                   | Exciter Lamp (Fig.27-2)                                     | If Fig.27-2 is defective, replace it.                                                                                                              |              |
|                                                      | Fuse (F3), Connector (CN1-9,10,11), Switch (SW1-3, SW2-2)   | Check the conduction of fuse, connectors and switches.<br>If not conduct, replace it.                                                              | Fig.31<br>32 |
|                                                      | REC2, Exciter Lamp Circuit                                  | If REC2 or exciter lamp circuit is defective, repair or replace it.                                                                                | Fig.32       |
|                                                      | Amplifier                                                   | Check the voltages in comparison with the voltage checking points. If the unusual voltage would be measured, adjust or replace amplifier.          | Fig.29       |
|                                                      | Sound Lens (Fig.27-3)                                       | If Fig.27-3 is dusty or defective, brush away dust or replace it.<br>If Fig.27-3 is out of position, adjust it.                                    | X            |
|                                                      | Silicon Photo Diode (Fig.17-7)                              | If Fig.17-7 is dusty or defective, brush away dust or replace it.<br>If Fig.17-7 is out of position, adjust it.                                    | Q            |
|                                                      | Knob M-0 Switch (Fig.1-7)                                   | If Fig.1-7 is defective, replace it.                                                                                                               | A, R         |

SOUND (Cont'd)

| Case                                         | Checking Point                                        | Step                                                                                                                                     | Ref.          |
|----------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Output level is low at Optical reproduction. | Amplifier                                             | Check the voltages in comparison with the voltage checking points. If the unusual voltage would be measured, adjust or replace amp.      | Fig. 29       |
|                                              | Sound Lens (Fig.27-3)                                 | If the attaching position of Fig.27-3 is not proper, adjust it by using 7,000Hz Test Film. Remove stains from the surface of sound lens. | X             |
|                                              | Exciter Lamp (Fig.27-2)                               | If the attaching position of Fig.27-2 is not correct, adjust it. If Fig.27-2 is defective, replace it.                                   | X             |
| Magnetic Film cannot be reproduced.          | Sound Head WY-020 (Fig.28-1)                          | If Fig.28-1 is defective (broken wire, etc.), replace it.                                                                                | X             |
|                                              | Canceling Coil L1                                     | If canceling coil is defective, replace it.                                                                                              | Fig. 32       |
|                                              | Connector (CN2-3,4)                                   | Check the conduction of connectors. If not conduct, replace it.                                                                          | Fig. 31<br>32 |
|                                              | Knob M-0 Switch (Fig.1-7)                             | If Fig.1-7 is defective, replace it.                                                                                                     | A,R           |
|                                              | Amplifier                                             | Check the voltages in comparison with the voltage checking points. If the unusual voltage would be measured, adjust or replace amp.      | Fig. 29       |
| Output Sound is low at Magnetic reproduction | Sound Head WY-020 (Fig.28-1)                          | If Fig.28-1 is worn out by long use, replace it.                                                                                         | X             |
|                                              | Amplifier                                             | Check the voltages in comparison with the voltage checking points. If the unusual voltage would be measured, adjust or replace amp.      | Fig. 29       |
| Amplifier Noise                              | Canceling Coil L1 (Magnetic Reproduction)             | If canceling coil is out of position, adjust it.                                                                                         | Fig. 32       |
|                                              | Silicon Photo Diode (Fig.17-7) (Optical Reproduction) | If Fig.17-7 vibrates, adjust amp. so as not to vibrate.                                                                                  | Q             |
|                                              | Amplifier                                             | If parts in amplifier is defective, replace it.                                                                                          |               |

SOUND (Cont'd)

| Case                                                     | Checking Point                    | Step                                                                                                                                                | Ref. |
|----------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Wow & Flutter<br>(Magnetic &<br>Optical<br>reproduction) | Sprocket<br>(Fig.8-12)            | If Fig.8-12 touches film perforation-side, adjust the position of it.<br>If Fig.8-12 has defective such as distortion or disfigurement, replace it. | E,X  |
|                                                          | Shaft FlyWheel Assy<br>(Fig.17-1) | If Fig.17-1 has defective such as disfigurement or eccentricity, replace it.                                                                        | Q    |
|                                                          |                                   | If there is end-play in Fig.17-1, adjust it by turning Fig.17-14.                                                                                   | Q    |
|                                                          |                                   | If there is unnecessary clearance between Fig.17-1 and Fig.17-4,13 due to defect of Fig.17-4 or 13, replace Fig.17-4 or 13.                         | Q    |
|                                                          |                                   | If Fig.17-1 does not rotate smoothly, adjust Fig.17-14 or replace Fig.17-14,13.                                                                     | Q    |
|                                                          | Worm 2<br>(Fig.11-4)              | If Fig.11-4 has disfigurement, replace it.                                                                                                          | L    |
|                                                          |                                   | If there is end-play in Fig.11-4, adjust it by moving the position of Fig.11-5.                                                                     | L    |
|                                                          |                                   | If Fig.11-4 unnecessarily moves in right-angled direction against axis, replace Fig.11-3,7.                                                         | L    |
|                                                          | Worm Gear (2) Assy<br>(Fig.8-8)   | If Fig.8-8 has defective such as distortion or disfigurement, replace it.                                                                           | E    |
|                                                          | Fly Wheel Spring<br>(Fig.16-14)   | If the pressure of Fig.16-14 is insufficient, increase it.                                                                                          | Q    |
|                                                          | Belt Take-up Arm<br>(Fig.2-4)     | If take-up tension is unstable, replace Fig.2-4.                                                                                                    | B    |
|                                                          | V Belt Take-up<br>(Fig.2-11)      | If the tension of Fig.2-11 is not enough and Fig.2-11 slips, increase the tension of Fig.2-11.                                                      | B    |
|                                                          | Brake Roller 1<br>(Fig.26-1)      | If Fig.26-1 does not rotate smoothly, adjust it.                                                                                                    | X    |
|                                                          |                                   | If Fig.26-1 has eccentricity, replace it.                                                                                                           | X    |
|                                                          | (1) in Fig. 14                    | If vibration of motor and Fig.14-9 are too big, adjust or replace them.                                                                             | 0    |

SOUND (Cont'd)

| Case                                        | Checking Point                    | Step                                                                                                | Ref. |
|---------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------|------|
| Wow & Flutter<br>(Magnetic<br>Reproduction) | Sound Head WY-020<br>(Fig.28-1)   | If position of Fig.28-1 is not correct, adjust the position by turning Fig.28-6.                    | X    |
|                                             | Pad Roller Assy<br>(Fig.28-2)     | If Fig.28-2 is defective, replace it.                                                               | X    |
|                                             |                                   | If Fig.28-2 does not rotate smoothly or the pressure to Fig.28-1 does not become stable, adjust it. | X    |
| Wow & Flutter<br>(Optical<br>Reproduction)  | Silicon Photo Diode<br>(Fig.17-7) | If Fig.17-7 vibrates, adjust amplifier so as not to vibrate.                                        | Q    |

# STANDARD VALUE OF PRESSURE

When measuring pressures, set Main Knob at "9" position.

When measuring pressure at (e), put two sheets of films between Sprocket and Roller Sprocket. And measure it, while pulling out films.

|                   |               |                   |               |
|-------------------|---------------|-------------------|---------------|
| a. (P412350) .... | 45 ± 10 gr.   | h. (P410607) .... | 80 ± 20 gr.   |
| b. (P412349) .... | 230 ± 70 gr.  | i. (P412114) .... | 250 ± 50 gr.  |
| c. (P412345) .... | 50 ± 10 gr.   | j. (P412112) .... | 50 ± 20 gr.   |
| d. (P412346) .... | 55 ± 15 gr.   | k. (P412368) .... | 370 ± 70 gr.  |
| e. (P412338) .... | 350 ± 100 gr. | l. (P412339) .... | 200 ± 50 gr.  |
| f. (P412209) .... | 40 ± 20 gr.   | m. (P412112) .... | 370 ± 100 gr. |
| g. (P412114) .... | 50 ± 10 gr.   | n. (4P31886) .... | 65 ± 15 gr.   |

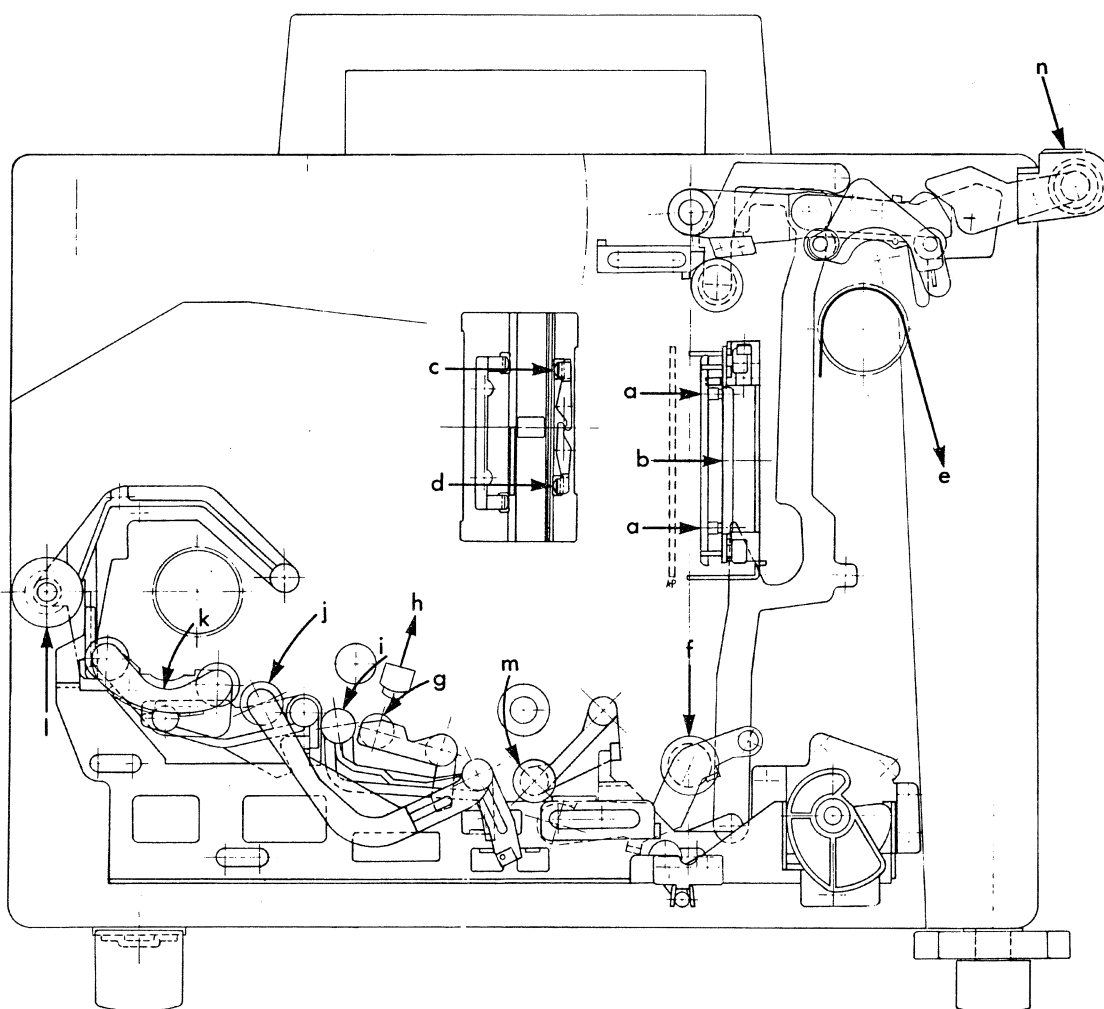


Fig. 29

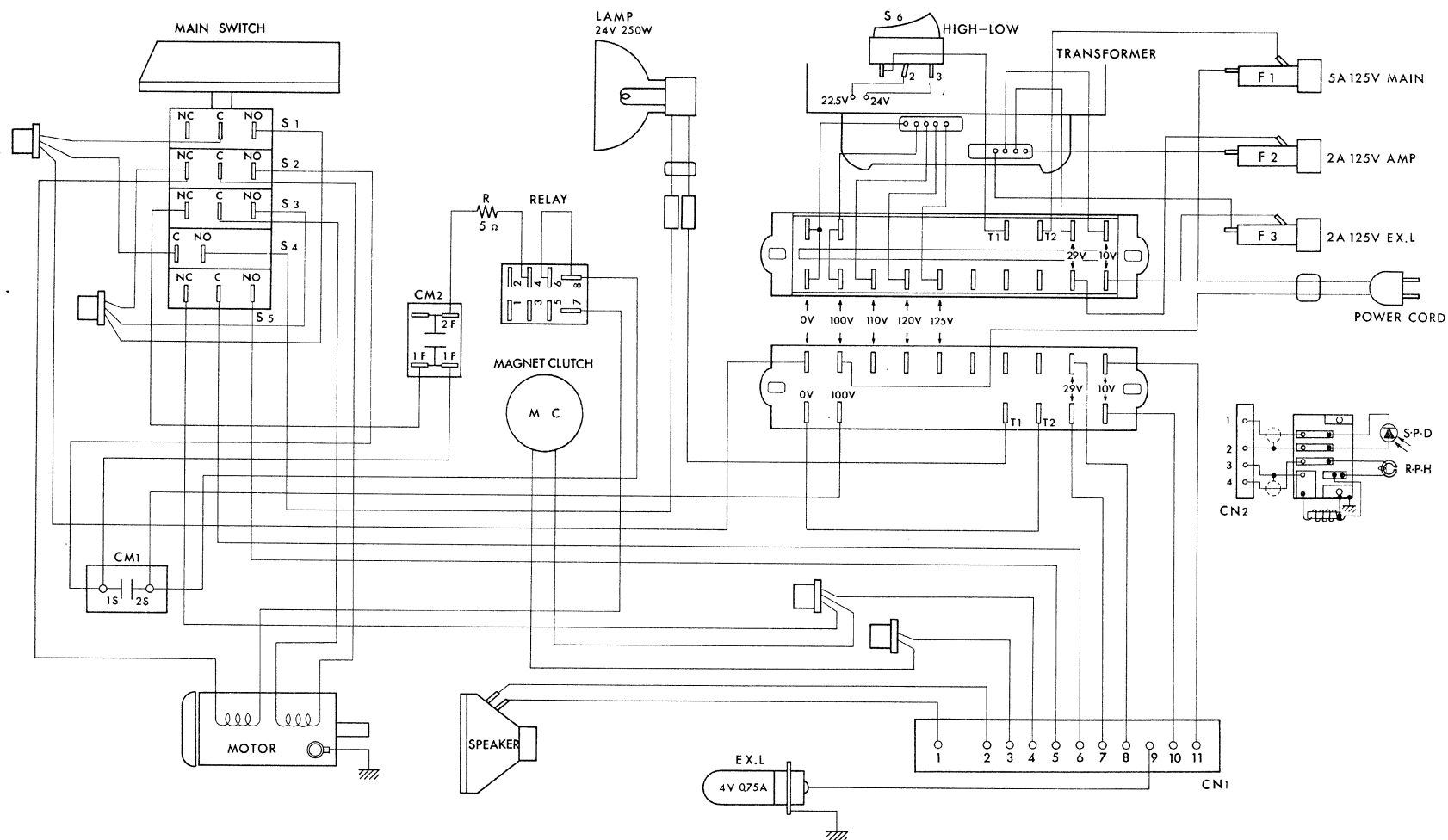


Fig. 30 Connecting diagram for machine for 16-CL

E31005



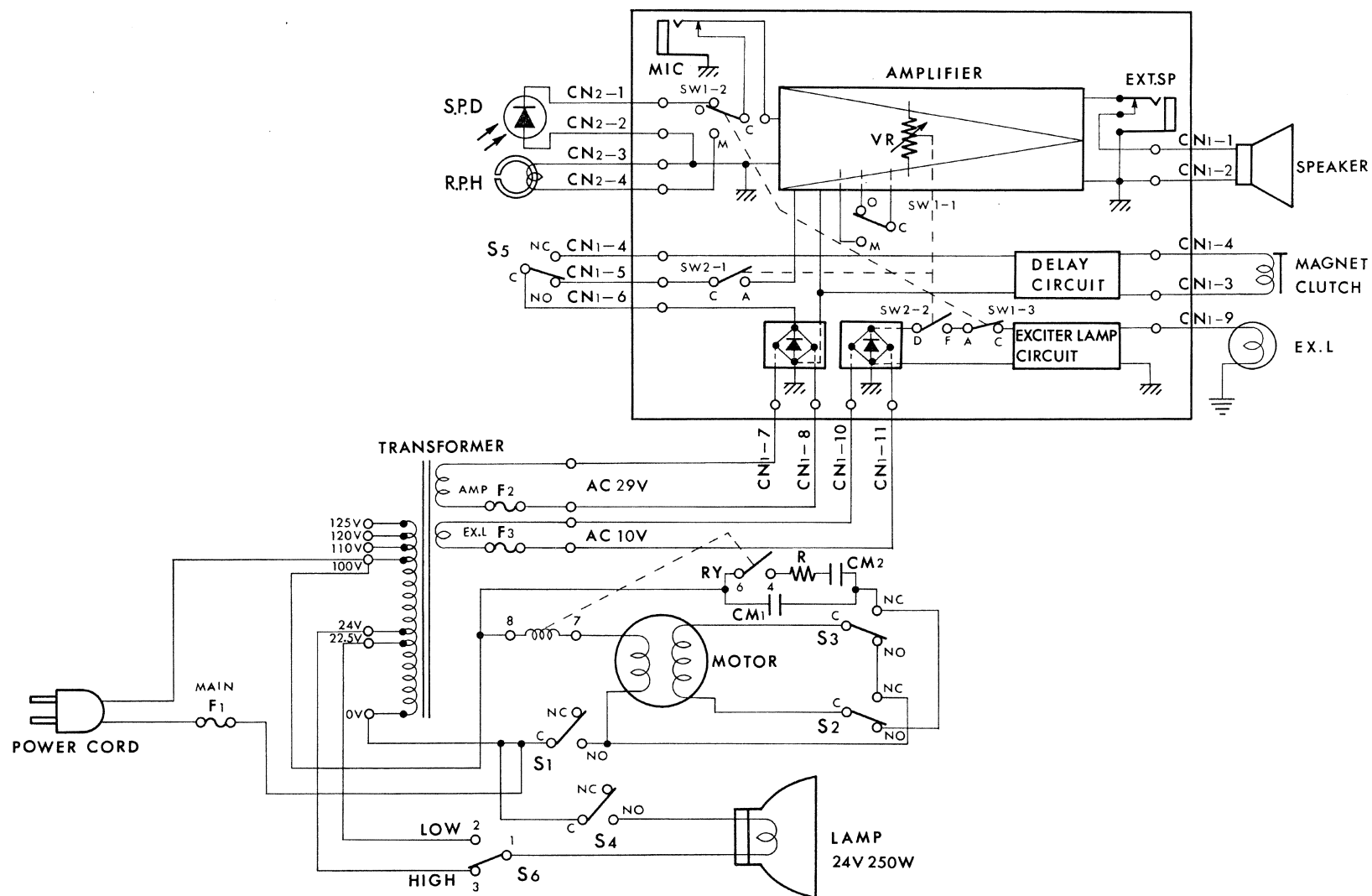


Fig. 31 Schematic diagram for machine for 16-CL

E31007

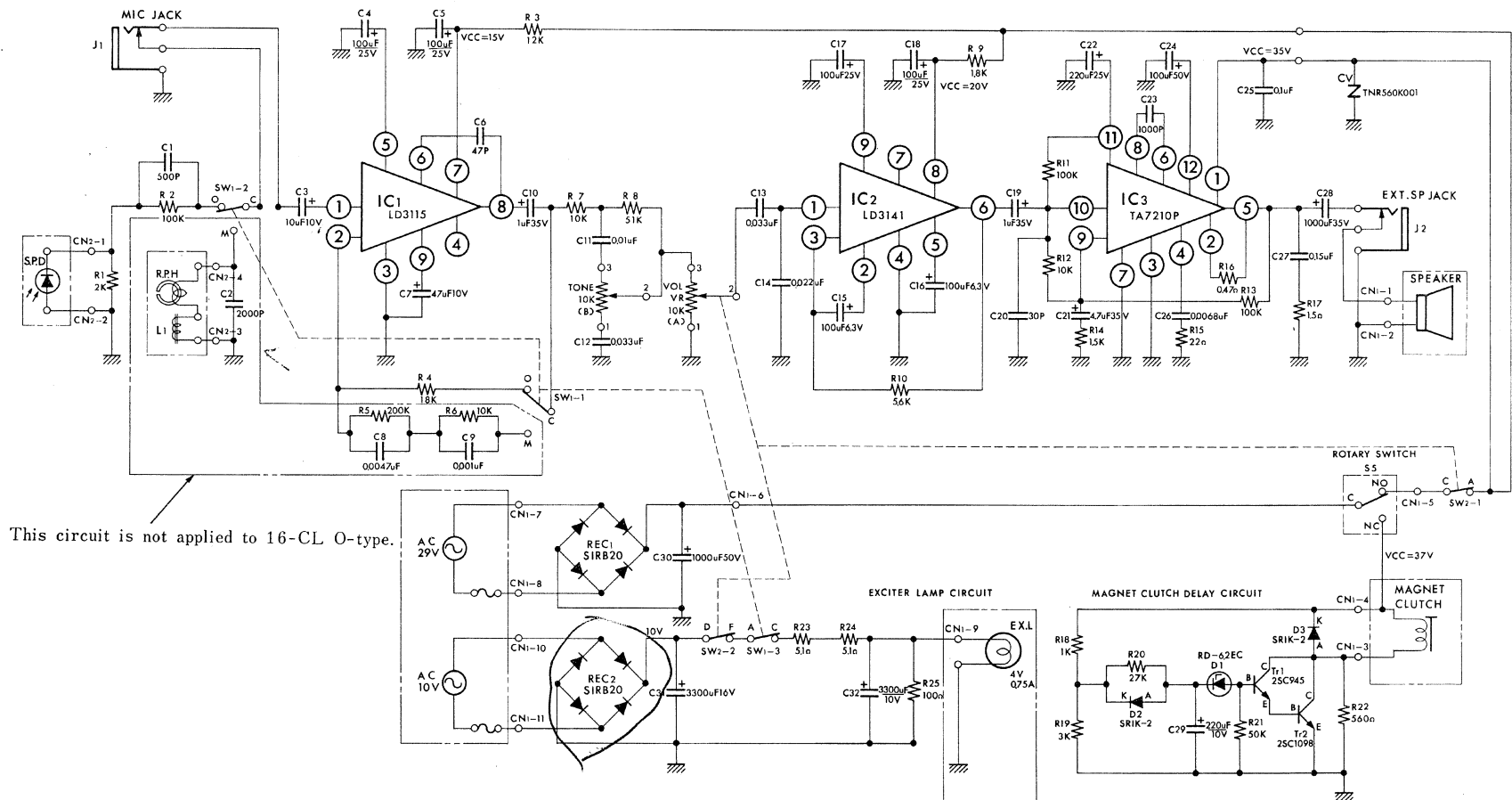


Fig. 32 Schematic diagram for amplifier for 16-CL

E30983

1. Turn Volume Control Knob fully clockwise.
2. Set Tone Control Knob at the center position.
3. Apply 4.8mV-400Hz signal oscillated by Oscillator to Mic. receptacle (Fig.33,J2).
4. Set Volume Control Knob so that the output level measured by Vacuum-tube Voltmeter may be 11.5dB lower than its maximum level.

\*Other voltages mentioned in this circuit diagram are DC voltages when no signal is applied. If use a Tester, be sure to use one whose internal impedance is more than 10 Kohms/volt at DC.

E20454

# PARTS LIST

## 16-CL 16-CL OPTICAL 16-CL<H>

### INTRODUCTION

### はじめに

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#### 2. MARKS

- ... (on page of illustration)  
It is supplied as an assembly shape.
- ... (in the column of "Illustration No.")  
Make choice of parts number from the table  
EXPORT TYPE on pages 11 & 16.
- ... (in the column of "Illustration No.")  
Make choice of parts number from the table  
PREVIOUS PARTS on pages 12&16 when you need  
the old parts.
- \*... (in the column of "Common Use Model")  
It is an improved one for the marked model.

#### 3. OTHERS

Parts number for screws, nuts, E-rings, etc. is direct shown near the illustration.

1. このパーツリストは、16-CLの全補修用部品と、16-CLとの共用を除いた16-CL OPTICAL・16-CL<H>の専用補修用部品が16ページ・17ページに各々記載してあります。
2. 1ページにユニット別の分解図があり、各々の記載ページ及び部品番号が表示してあります。索引として御利用下さい。
3. イラスト番号が二重丸で表示してある部品は、組立品として供給できます。
4. ネジ・ナット・Eリング等基本部品の部品番号は、図中に直接表示してあります。
5. イラスト番号欄に○印が付記されている部品は、国内用とは異なる国外用部品があり16-CLは11ページに、16-CL OPTICALは16ページ下段にまとめてあります。また国外のみ使用する部品は、10ページに表示してあります。
6. イラスト番号欄に□印が付記されている部品は、改訂による互換性のない旧部品があり16-CLは12ページに、16-CL OPTICALは16ページ下段にまとめてあります。
7. 16-CL・16-CL OPTICAL結線図と電気部品表は、13・14・15ページに、16-CL<H>結線図と電気部品表は、18・19ページにあります。
8. 部品番号索引は、20ページにあります。
9. 共用機種欄の※印は、その機種の改訂機との共用を表しています。

## ELMO CO., LTD.

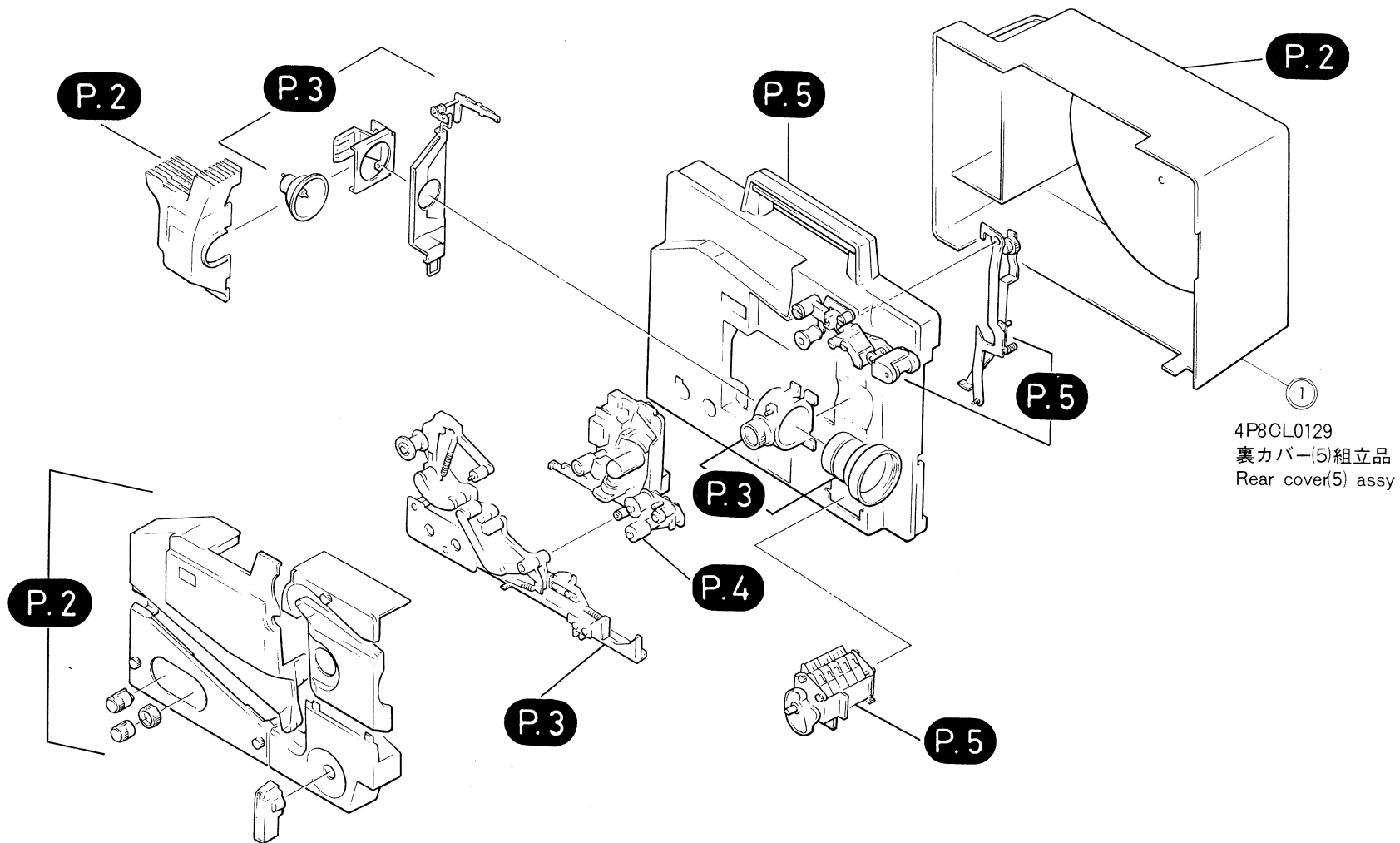


Illustration  
No.①  
②  
③  
④  
5  
6

P.8

4E20446  
組立電源トランス(1)  
Transformer(1) assy

②

P.9

P.7

P.9

P.8

P.9

P.4

P.9

4P8CL0004  
巻返アーム組立品  
Rewind arm assy

⑤

P.7

P.6

4P8CL0001C  
間欠給送装置組立品  
Claw section  
frame assy

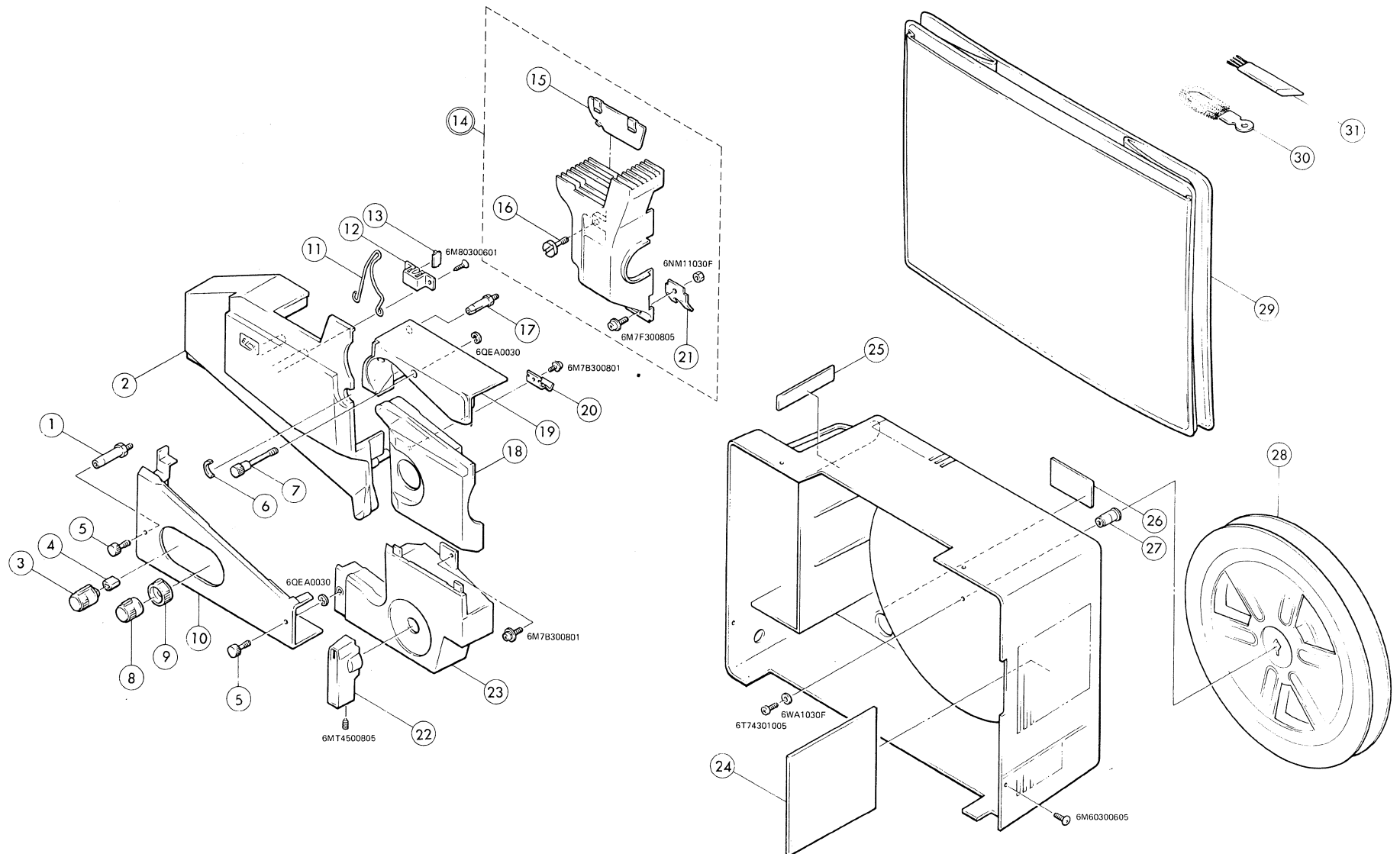
④

4P8CL0007  
巻取アーム組立品  
Take-up arm assy

⑥

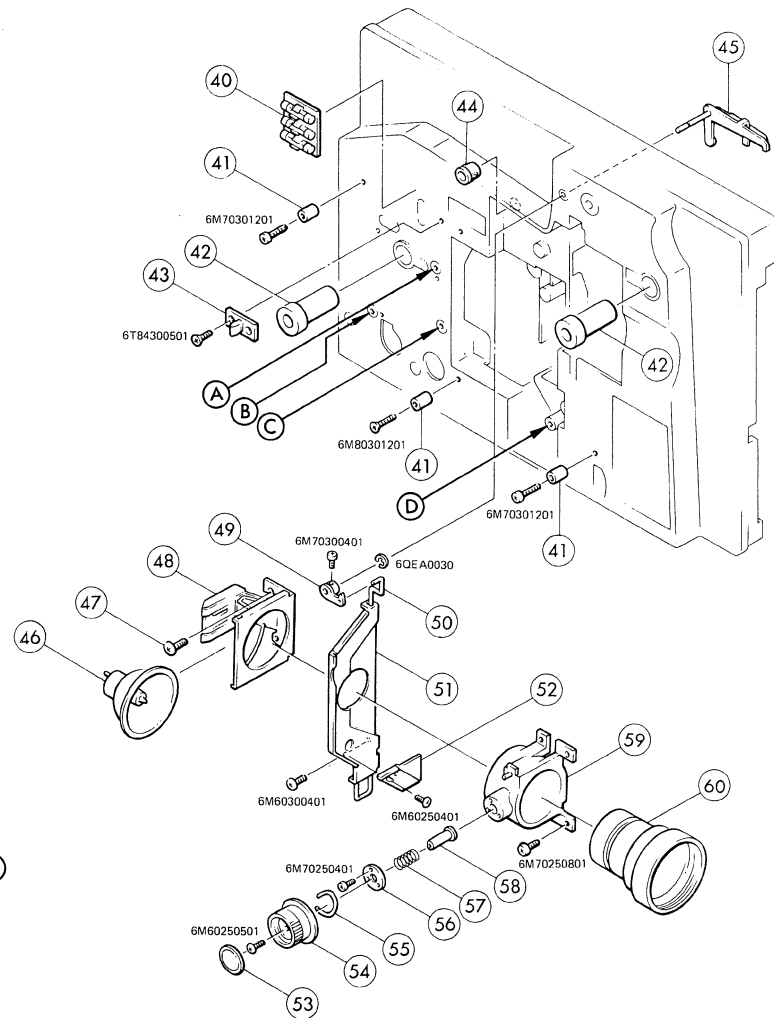
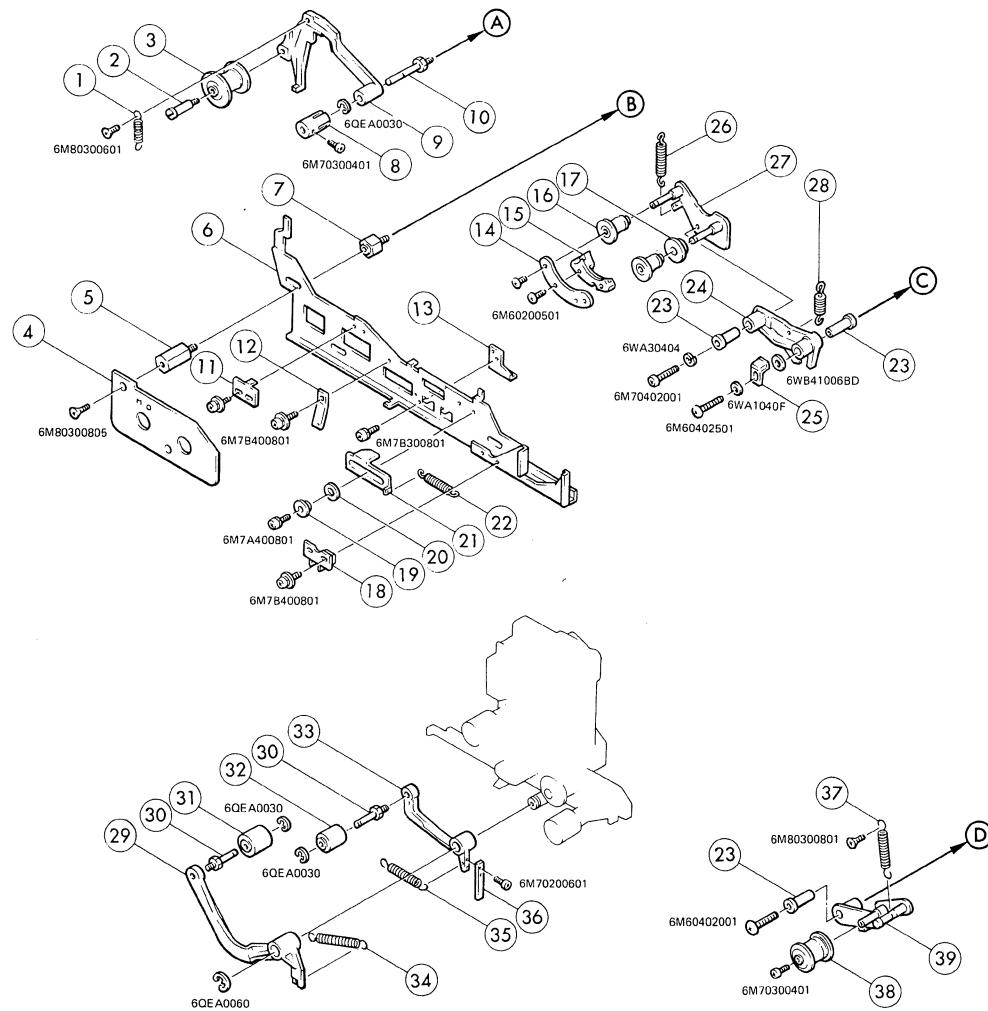
4P8CL0122  
アンプ組立品 M-O  
Amplifier assy

③

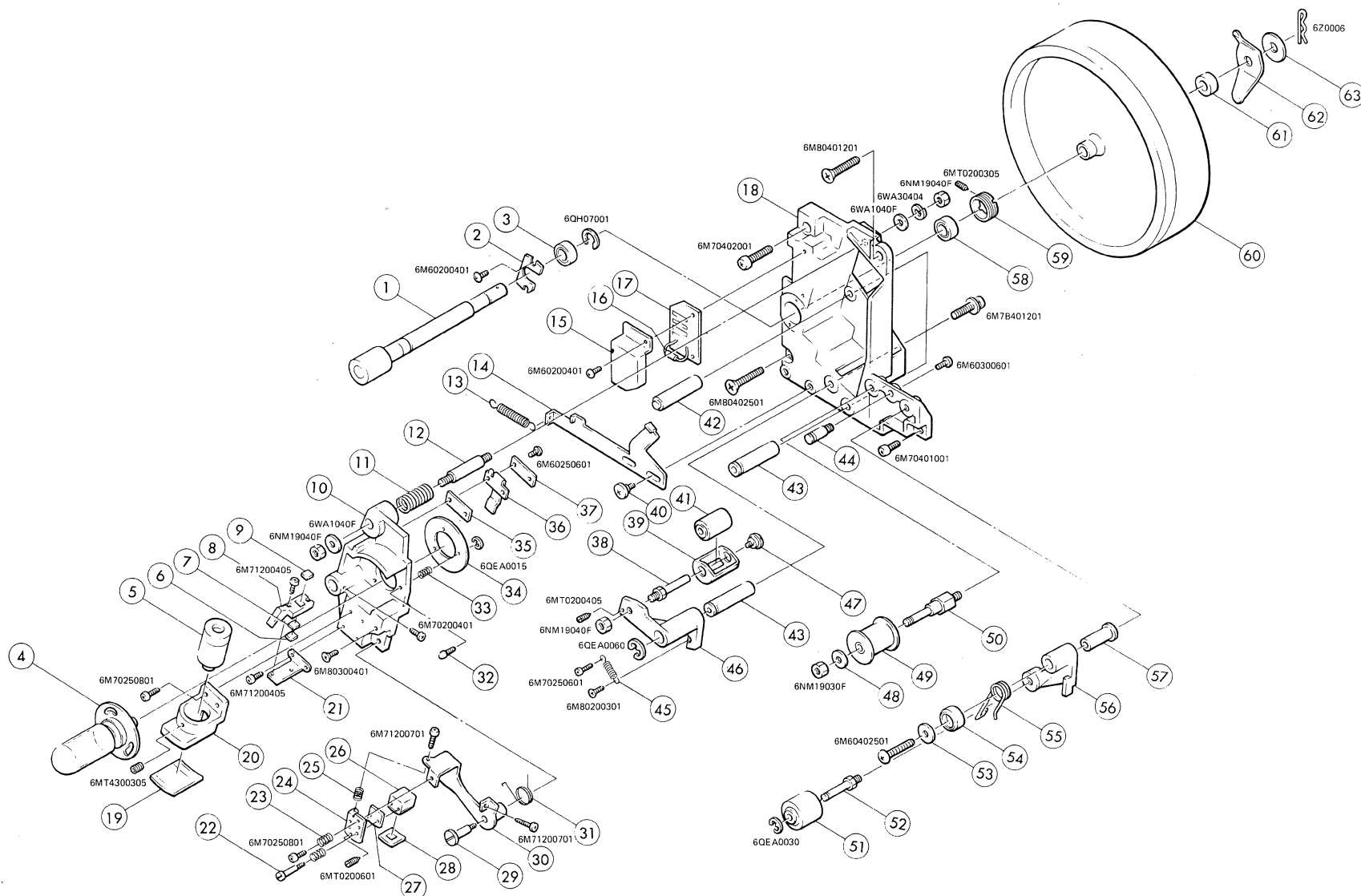


| Illustration No. | Parts No. | Parts Name         |                           | Common Use Model    | Illustration No. | Parts No. | Parts Name |                | Common Use Model    |
|------------------|-----------|--------------------|---------------------------|---------------------|------------------|-----------|------------|----------------|---------------------|
| 1                | P414769   | スタッド 前カバー (12)     | Stud front cover 12       | *16-CLXENON         | 31               | P413991   | 角 ブラシ      | Cleaning brush | 16-CLXENON<br>16-AA |
| 2                | 4P10322   | 前カバー(3)            | Front cover 3             |                     |                  |           |            |                |                     |
| 3                | P412228   | ツマミ M-O 切換         | Knob M-O switch           | 16-CLXENON          |                  |           |            |                |                     |
| 4                | 6Z0057    | ツマミ 固定スプリング X-5200 | Hold spring knob (X-5200) | 16-CLXENON          |                  |           |            |                |                     |
| 5                | P414770   | 止メネジ 前カバー(12)      | Screw front cover 12      | *16-CLXENON         |                  |           |            |                |                     |
| 6                | 4C47030   | 漏光止メ 丁番            | Shade hinge               | 1012S-XL            |                  |           |            |                |                     |
| 7                | P414741   | 止メネジ 前カバー(4)       | Screw front cover 4       | *16-CLXENON         |                  |           |            |                |                     |
| 8                | P412230   | 二重ツマミ(2) アンプ       | Knob amplifier 2          | 16-CLXENON          |                  |           |            |                |                     |
| 9                | P412229   | 二重ツマミ(1) アンプ       | Knob amplifier 1          | 16-CLXENON          |                  |           |            |                |                     |
| 10               | 4P20732   | 前カバー (12)          | Front cover 12            | *16-CLXENON         |                  |           |            |                |                     |
| 11               | P414799   | ホルダ スベアランプ         | Holder spare lamp         |                     |                  |           |            |                |                     |
| 12               | 6Z00502   | ジュラコンキャッチ C131 メス  | Catch (C-131-2)           |                     |                  |           |            |                |                     |
| 13               | P412419   | 補助板 キャッチ           | Plate catch               |                     |                  |           |            |                |                     |
| 14               | 4P8CL0030 | 遮熱筒組立品             | Lamp house assy           |                     |                  |           |            |                |                     |
| 15               | P412281   | 遮光板 遮熱筒            | Shield plate lamp house   |                     |                  |           |            |                |                     |
| 16               | 4P55646   | ネジ(2) 遮光筒          | Screw(2) lamp house       |                     |                  |           |            |                |                     |
| 17               | P414740   | スタッド 前カバー(4)       | Stud front cover 4        | *16-CLXENON         |                  |           |            |                |                     |
| 18               | 4P20570   | 前カバー(2)            | Front cover 2             | 16-CLXENON          |                  |           |            |                |                     |
| 19               | 4P20571B  | 前カバー(4)            | Front cover 4             | *16-CLXENON         |                  |           |            |                |                     |
| 20               | P412282   | 止メバネ 前カバー(2)       | Fix spring front cover 2  | 16-CLXENON          |                  |           |            |                |                     |
| 21               | P412370   | ガイド板 遮熱筒           | Guide lamp house          |                     |                  |           |            |                |                     |
| 22               | P412227   | ツマミ メイン            | Knob main                 | 16-CLXENON          |                  |           |            |                |                     |
| 23               | 4P20731   | 前カバー (11)          | Front cover 11            | *16-CLXENON         |                  |           |            |                |                     |
| 24               | P412354   | スピーカマスク 裏カバー       | Mask speaker              | 16-CLXENON          |                  |           |            |                |                     |
| 25               | 4N02514   | 銘板(1) ヒューズ         | Plate(1) fuse             |                     |                  |           |            |                |                     |
| 26               | 4N02535   | 定格銘板(1)            | Rating plate 1            |                     |                  |           |            |                |                     |
| 27               | P412245   | リール止メ軸 裏カバー        | Reel shaft rear cover     |                     |                  |           |            |                |                     |
| 28               | 4P20584   | 組立 800 フィートリール     | Reel 240m                 |                     |                  |           |            |                |                     |
| 29               | 4K00842   | ビニールカバー(2)         | Dust cover (2000FT)       |                     |                  |           |            |                |                     |
| 30               | 4K00502   | アパーチャブラシ           | Aperture brush            | 16-CLXENON<br>16-AA |                  |           |            |                |                     |

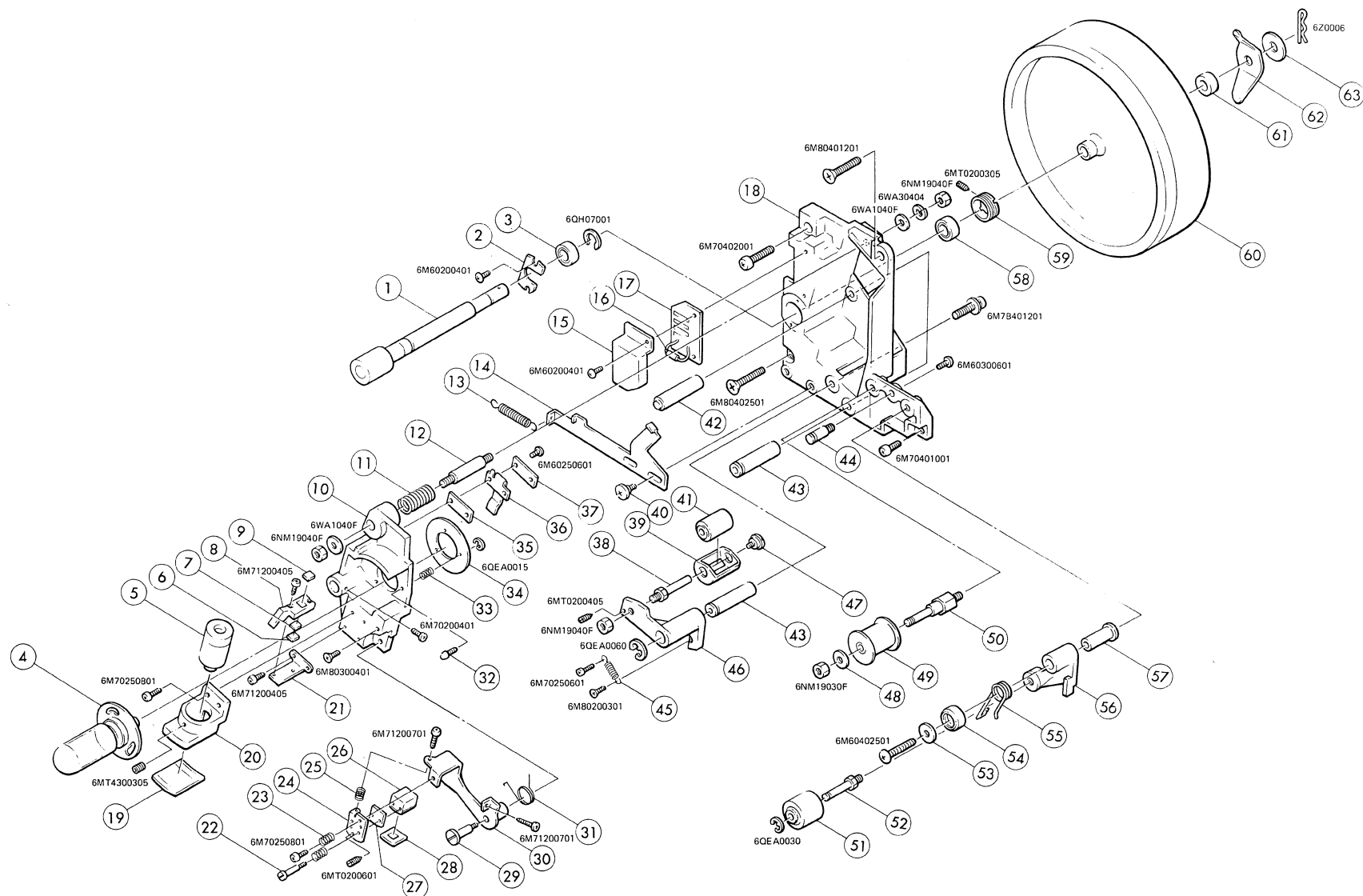




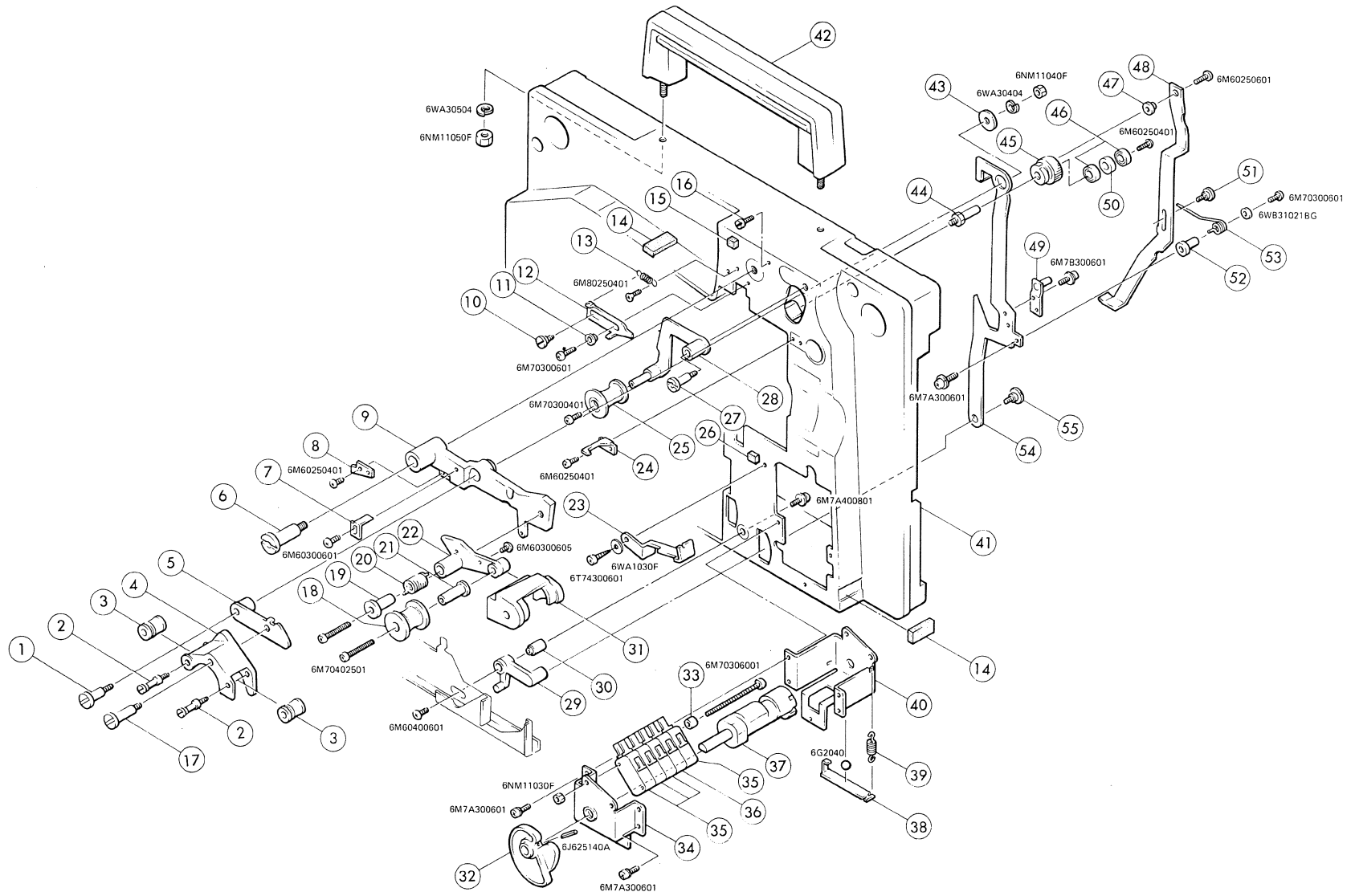
| Illustration No. | Parts No. | Parts Name           |                           | Common Use Model | Illustration No. | Parts No.  | Parts Name           |                           | Common Use Model      |
|------------------|-----------|----------------------|---------------------------|------------------|------------------|------------|----------------------|---------------------------|-----------------------|
| 1                | 4P55661   | バネ レバーガイドローラ(4)      | Spring guide roller 4     | 16-CLXENON       | 31               | P412112    | 組立制動ローラ(2)           | Brake roller(2) assy      | 16-CLXENON            |
| 2                | 4P55595   | 段付ネジ ガイドローラ(4)       | Screw guide roller 4      | 16-CLXENON       | 32               | P412114    | 組立パッドローラ             | Pad roller assy           | 16-CLXENON            |
| 3                | P412339   | ガイドローラ(4)            | Guide roller 4            | 16-CLXENON       | 33               | P412057C   | レバー プレッシュャローラ        | Lever pressure roller     | 16-CLXENON            |
| 4                | 4N03244   | 銘板 M-O               | Plate M-O                 | *16-CLXENON      | 34               | 4P55608B   | バネ 中間テンションローラ        | Spring tension roller     | 16-CLXENON            |
| 5                | P414742   | スタッド 銘板              | Stud plate                | *16-CLXENON      | 35               | 4P55551    | バネ プレッシュャローラ         | Spring pressure roller    | 16-CLXENON            |
| 6                | 4P31836C  | 連桿(1)                | Link 1                    | 16-CLXENON       | 36               | P412930    | ストッパ(1) レバープレッシュャローラ | Stopper(1) lever pressure | 16-CLXENON            |
| 7                | 4P55574B  | 座 連桿(1)              | Mount link 1              | 16-CLXENON       | 37               | 4P55597    | バネ ガイドローラ(3)         | Spring guide roller 3     | 16-CLXENON<br>16-AA   |
| 8                | P412935   | スタビライザ レバーガイドローラ(4)  | Stabilizer lever G.R. 4   | 16-CLXENON       | 38               | P412209    | ガイドローラ(3)            | Guide roller 3            | 16-CLXENON            |
| 9                | P412051D  | レバー ガイドローラ(4)        | Lever guide roller 4      | 16-CLXENON       | 39               | P412179    | 組立レバー ガイドローラ(8)      | Lever guide roller 3      | 16-CLXENON            |
| 10               | P412469B  | 軸 ガイドローラ(4)          | Shaft lever guide roller  | 16-CLXENON       | 40               | 4K00877    | スペアヒューズホルダ(1)組立品     | Spare fuse holder assy    | 16-AA                 |
| 11               | P412928B  | ストッパ レバー第2スプロケット押エ   | Stopper lever(2) sprocket | 16-CLXENON       | 41               | 4P56118    | スペーサ ベースフレーム         | Spacer base frame         | *16-CLXENON           |
| 12               | P413094B  | 固定板 バネ中間テンション        | Plate spring mid. tension | 16-CLXENON       | 42               | 4P55586    | メタル スプロケット           | Metal sprocket            | *16-CLXENON           |
| 13               | P412971   | ストッパ(2) レバープレッシュャローラ | Stopper(2) lever pressure | 16-CLXENON       | 43               | 6Z00501    | ジュラコンキャッチ C 131 オス   | Catch (C-131-1)           |                       |
| 14               | P412368B  | 取付板 シュー第2スプロケット      | Holder shoe second spro.  | 16-CLXENON       | 44               | 5G5038     | スナップブッシング SB-375-3   | Cord bush (SB-375-3)      |                       |
| 15               | P412367B  | シュー 第2スプロケット         | Shoe second sprocket      | 16-CLXENON       | 45               | P412352    | 組立レバー ループセッタ         | Lever loop setter assy    | 16-CLXENON            |
| 16               | P412221   | ローラ 第2スプロケット押エ       | Roller second sprocket    | 16-CLXENON       | 46               | 5L42402514 | 映写ランプ JCR 24V-250W   | Lamp (24V-250W)           | 16-AA<br>16-F         |
| 17               | 4P55620   | 間座 押エローラ第2スプロケット     | Washer second sprocket    | 16-CLXENON       | 47               | 4P47107    | ネジ ランプソケットホルダ        | Lamp socket holder screw  | 16-CLXENON<br>16-AA   |
| 18               | P412166B  | ホルダ リンク(3)           | Holder link 3             | 16-CLXENON       | 48               | 5N1022     | ランプソケット QLV-8        | Lamp socket (OLV-8)       |                       |
| 19               | 4P55575   | 間座 押エ板ガイドローラ(3)      | Washer guide roller 3     | 16-CLXENON       | 49               | P412129    | 組立ホルダ リンク(2)         | Holder link(2) assy       | 16-CLXENON            |
| 20               | 4P55633   | ワッシャ(1) 押エ板ガイドローラ(3) | Washer(1) plate guide R.  | 16-CLXENON       | 50               | P412202    | リンク(2) ループセッタ        | Link(2) loop setter       | 16-CLXENON            |
| 21               | P412206B  | 押エ板 レバーガイドローラ(3)     | Plate guide roller 3      | 16-CLXENON       | 51               | 4P31831B   | シャッターカバー             | Shutter cover             | *16-CLXENON           |
| 22               | 4P55627   | バネ 連桿(1)             | Spring link 1             | 16-CLXENON       | 52               | P412386B   | シャッターカバー(2)          | Shutter cover 2           | *16-CLXENON           |
| 23               | 4P55545   | 間座 6mm × 15mm        | Metal 6mm × 15mm          | 16-CLXENON       | 53               | 4N02033    | 銘板(2) フォーカシングツマミ     | Focusing plate 2          | 16-CLXENON<br>16-AA   |
| 24               | P412059C  | レバー(1) 第2スプロケット押エ    | Lever(1) second sprocket  | 16-CLXENON       | 54               | P412186    | ツマミ フォーカシング          | Knob focusing             | 16-CLXENON<br>16-AA   |
| 25               | P413593   | 組立フィルムガイド            | Film guide assy           | 16-CLXENON       | 55               | P413969    | 制動バネ フォーカシング         | Brake spring focus        | 16-CLXENON<br>*16-AA  |
| 26               | 4P55596   | バネ(1) ガイドローラ(4)      | Spring(1) guide roller 4  | 16-CLXENON       | 56               | P415229    | フォーカシング座 映写レンズ       | Focusing mount            | *16-CLXENON<br>*16-AA |
| 27               | P412225B  | 組立レバー(2) 第2スプロケット押エ  | Lever(2) second sprocket  | 16-CLXENON       | 57               | 4P55631    | バネ フォーカシングツマミ        | Spring focusing knob      | 16-CLXENON<br>16-AA   |
| 28               | 4P55573   | バネ レバー(1) 第2スプロケット押エ | Spring second sprocket    | 16-CLXENON       | 58               | P412175    | 軸 フォーカシングツマミ         | Shaft focusing knob       | 16-CLXENON            |
| 29               | P412058   | レバー 中間テンション          | Lever middle tension      | 16-CLXENON       | 59               | 4P31824    | ホルダ 映写レンズ            | Holder projection lens    | 16-CLXENON            |
| 30               | P412106   | 軸 プレッシュャローラ          | Shaft pressure roller     | 16-CLXENON       | 60               | 4LB0514    | 映写レンズ F 1.2-50mm     | Lens (F1.2-50mm)          | 16-CLXENON<br>16-AA   |



| Illustration No. | Parts No.  | Parts Name             |                          | Common Use Model        | Illustration No. | Parts No.  | Parts Name         |                           | Common Use Model        |
|------------------|------------|------------------------|--------------------------|-------------------------|------------------|------------|--------------------|---------------------------|-------------------------|
| 1                | P412107    | 組立軸 フライホイール            | Shaft flywheel assy      | 16-CLXENON              | 31               | 4P55540    | バネ ヘッドレバー          | Spring head lever         | 16-CLXENON              |
| 2                | P412103    | 押エ板 ボールベアリング           | Pressing plate bearing   | 16-CLXENON              | 32               | 4P55539    | ピン エキサイタランプ        | Pin exciter lamp          | 16-CLXENON              |
| 3                | 6B20801201 | ラジアル玉軸受 8×12×3.5 PO    | B.-bearing (SSL-1280ZZH) | 16-CLXENON              | 33               | 4P53365    | エキサイタランプソケットスリーブピン | Spring sleeve pin         | 16-CLXENON<br>F16-1000A |
| 4                | 4E41580    | エキサイタランプ KE-04 4V-075A | Exciter lamp (KE-04)     | 16-CLXENON<br>16-AA     | 34               | 4P53364    | エキサイタランプソケットスリーブ座板 | Mount exciter lamp        | 16-CLXENON<br>F16-1000A |
| 5                | 4P31862    | 組立サウンドレンズ              | Sound lens assy          | 16-CLXENON              | 35               | P412090    | 絶縁紙(1) エキサイタランプ    | Isolator(1) exciter lamp  | 16-CLXENON              |
| 6                | P412421    | パッド 光電池                | Photo cell pad           | 16-CLXENON              | 36               | P412092B   | 端子押エ エキサイタランプ      | Terminal exciter lamp     | 16-CLXENON              |
| 7                | 5S4PD520UA | 光電素子 PD-520 UA         | Photo diode (PD-520UA)   | *16-CLXENON<br>*16-AA   | 37               | P412091    | 絶縁紙(2) エキサイタランプ    | Isolator(2) exciter lamp  | 16-CLXENON              |
| 8                | P412098    | ホルダ(2) フォトダイオード        | Holder(2) photo diode    | 16-CLXENON              | 38               | 4E43078    | 軸 パッドローラ           | Shaft pad roller          | 16-CLXENON              |
| 9                | P412099    | カバー フォトダイオード           | Cover photo diode        | 16-CLXENON              | 39               | 4E43077    | カバー パッドローラ         | Cover pad roller          | 16-CLXENON              |
| 10               | P412050B   | ホルダ エキサイタランプ           | Holder exciter lamp      | 16-CLXENON              | 40               | 4P55230    | ネジ(1) ループフォーマ      | Loop former screw 1       | 16-CLXENON<br>16-AA     |
| 11               | 4P55541    | バネ ホルダエキサイタランプ         | Spring holder exc. lamp  | 16-CLXENON              | 41               | P412114    | 組立 パッドローラ          | Pad roller assy           | 16-CLXENON              |
| 12               | P412100    | 軸(1) ホルダエキサイタランプ       | Shaft(1) exciter lamp    | 16-CLXENON              | 42               | P412101    | 軸(2) ホルダエキサイタランプ   | Shaft(2) exciter lamp     | 16-CLXENON              |
| 13               | 4P55978    | バネ レバー(1) M-O 切換       | Spring lever(1) M-O cha. | *16-CLXENON             | 43               | 4P55548    | 軸 パッドローラレバー        | Shaft pad roller lever    | 16-CLXENON              |
| 14               | P412104B   | レバー(1) M-O 切換          | Lever(1) M-O switch      | 16-CLXENON              | 44               | P415245    | スタッド バネ制動ローラ(2)    | Stud spring brake roller  | *16-CLXENON             |
| 15               | 4E42721B   | カバー 端子板                | Cover terminal           | 16-CLXENON              | 45               | 4P55549    | バネ(1) パッドローラ       | Spring(1) pad roller      | 16-CLXENON              |
| 16               | 5J20005    | キャンセルコイル HCR-004       | Cancel coil              | 16-CLXENON<br>GS-1200   | 46               | P412056C   | レバー パッドローラ         | Lever pad roller          | 16-CLXENON              |
| 17               | 4E42720B   | 端子板 ヘッド                | Terminal head            | 16-CLXENON              | 47               | 4E50872    | 段付 ネジ パッドローラ       | Screw pad roller          | 16-CLXENON              |
| 18               | 4P20566C   | ホルダ フライホイール            | Holder flywheel          |                         | 48               | 4P55642    | ワッシャ 角棒巻返          | Washer square shaft       | 16-CLXENON              |
| 19               | P412251    | フィルムガイド ホルダサウンドレンズ     | Film guide sound lens    | 16-CLXENON              | 49               | P414947    | 組立制動ローラ(3)         | Brake roller(3) assy      |                         |
| 20               | P412233    | ホルダ サウンドレンズ            | Holder sound lens        | 16-CLXENON              | 50               | P414950    | 軸 制動ローラ(3)         | Shaft brake roller(3)     |                         |
| 21               | P412097    | ホルダ(1) フォトダイオード        | Holder(1) photo diode    | 16-CLXENON              | 51               | P412112    | 組立制動ローラ(2)         | Brake roller(2) assy      | 16-CLXENON              |
| 22               | P412095B   | ネジ ヘッド                 | Screw head               | 16-CLXENON              | 52               | P412106    | 軸 プレッションローラ        | Shaft pressure roller     | 16-CLXENON              |
| 23               | 4P49658    | バネ(4) ヘッド              | Head spring 4            | 16-CLXENON<br>16-AA     | 53               | 4P55658    | 間座 レバー制動ローラ(2)     | Washer brake roller 2     | 16-CLXENON              |
| 24               | P412543    | 取付板 ヘッド MH-16          | Holder head              | 16-CLXENON              | 54               | 4P55632    | 間座 バネ制動ローラ(2) レバー  | Washer spring B. roller 2 | 16-CLXENON              |
| 25               | 4P52431    | サウンドヘッド取付板押エバネ         | Head plate press spring  | 16-CLXENON<br>F16-1000A | 55               | 4P55547    | バネ 制動ローラ(2) レバー    | Spring brake roller 2     | 16-CLXENON              |
| 26               | 4E42473    | 組立(1) 磁気ヘッド MH-16      | Sound head (MH-16)       | 16-CLXENON<br>16-AA     | 56               | P412049C   | レバー 制動ローラ(2)       | Lever brake roller 2      | 16-CLXENON              |
| 27               | P412439    | 座板 ヘッド MH-16           | Mount head               | 16-CLXENON              | 57               | 4P55545    | 間座 6 mm × 15 mm    | Metal 6mm × 15mm          | 16-CLXENON              |
| 28               | 4E42767    | カバー(2) 磁気ヘッド MH-16     | Cover(2) sound head      | 16-CLXENON              | 58               | 6B20601201 | ラジアル玉軸受 6×12×4 PO  | B.-bearing (SSL-1260ZZ)   | 16-CLXENON<br>SC-30     |
| 29               | 4P54451    | セレクトレバー軸               | Selector lever shaft     | 16-CLXENON<br>F16-250HR | 59               | P412722    | リングナット サウンドドラム     | Ring nut sound drum       | 16-CLXENON              |
| 30               | P412093B   | 組立レバー ヘッド              | Lever head assy          | 16-CLXENON              | 60               | 4P48612    | フライホイール            | Flywheel                  | 16-CLXENON<br>SC-30     |

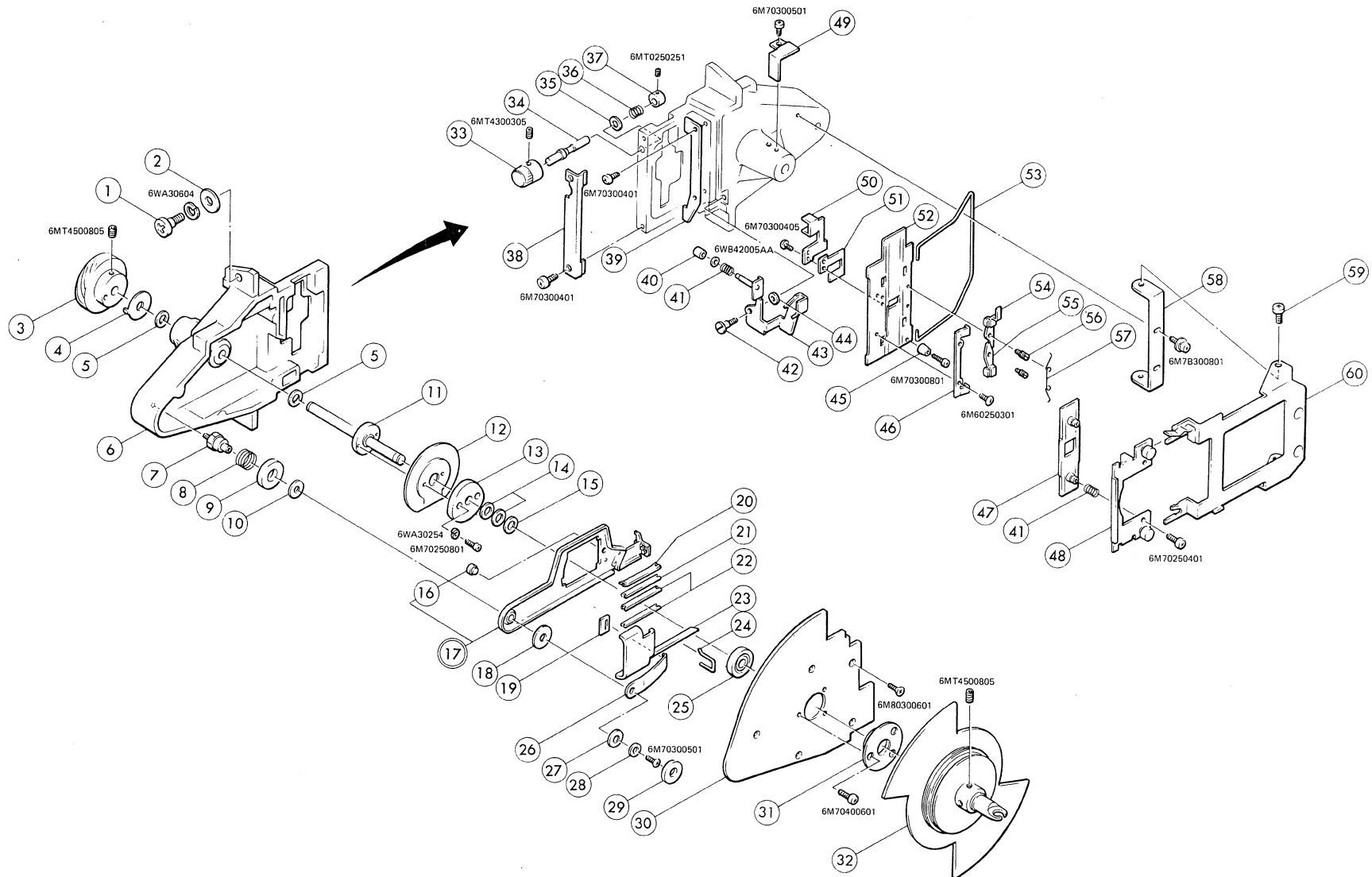






| Illustration No. | Parts No. | Parts Name            |                         | Common Use Model    | Illustration No. | Parts No.  | Parts Name           |                          | Common Use Model      |
|------------------|-----------|-----------------------|-------------------------|---------------------|------------------|------------|----------------------|--------------------------|-----------------------|
| 1                | 4P55581   | 段付ネジ 取付板シュー           | Screw holder shoe       | 16-CLXENON          | 31               | 4P31886    | カバー ガイドローラ(1)        | Cover guide roller 1     | 16-CLXENON            |
| 2                | P412527   | 軸 スプロケット押エローラ         | Screw roller sprocket   | 16-CLXENON          | 32               | P412173    | カム 連桿(1)             | Cam link 1               | 16-CLXENON            |
| 3                | P412201   | スプロケット押エローラ           | Roller sprocket         | 16-CLXENON          | 33               | 4P48821B   | 間座 ループセッタ            | Loop setter washer       | 16-CLXENON<br>GS-1200 |
| 4                | 4P31838   | シュー 第1スプロケット          | Shoe first sprocket     | 16-CLXENON          | 34               | P412123    | ホルダ(1) スイッチカム        | Holder(1) switch cam     | 16-CLXENON<br>16-AA   |
| 5                | P412213   | 組立取付板 スプロケットシュー       | Holder sprocket shoe    | 16-CLXENON          | (35)             | 5E1072     | マイクロスイッチ AH715089    | Micro switch (AH715089)  |                       |
| 6                | 4P55579   | 段付ネジ レバーシュー           | Screw lever shoe        | 16-CLXENON          | (36)             | 5E1041     | マイクロスイッチ V3C2        | Micro switch (V3C2)      |                       |
| 7                | P412344   | 押エ板 レバーガイドローラ(2)      | Plate guide roller 2    | 16-CLXENON          | 37               | P412187    | カム スイッチ              | Cam switch               | 16-CLXENON            |
| 8                | P412216B  | ストッパ ガイドローラ(2)        | Stopper guide roller 2  | 16-CLXENON          | 38               | P412142    | レバー クリックバネ           | Lever click spring       | 16-CLXENON<br>16-AA   |
| 9                | 4P31827B  | レバー スプロケットシュー         | Lever sprocket shoe     | 16-CLXENON          | 39               | 4P55593    | クリックバネ スイッチカム        | Click spring switch cam  | 16-CLXENON            |
| 10               | 4P55648   | 段付ネジ ストッパレバー          | Screw stopper lever     | 16-CLXENON<br>SC-18 | 40               | P413120    | 組立ホルダ(2) スイッチカム      | Holder(2) assy cam sw.   | 16-CLXENON<br>*16-AA  |
| 11               | 4P55585   | 間座 ストッパレバー            | Washer stopper lever G. | 16-CLXENON          | (41)             | 4P10439    | ベースフレーム(2)           | Base frame 2             |                       |
| 12               | P412204B  | ストッパ レバーガイドローラ(2)     | Stopper lever roller 2  | 16-CLXENON          | 42               | P412074    | 吊手                   | Carrying handle          | 16-CLXENON<br>GS-1200 |
| 13               | 4P55637   | バネ ストッパレバー            | Spring stopper lever    | 16-CLXENON          | 43               | 4P55055B   | 間座 アオリバネ             | Tilting spring washer    | 16-CLXENON<br>16-AA   |
| 14               | P412382   | アームパッド                | Arm pad                 | 16-CLXENON          | 44               | P412236    | 軸(1) ループセッタ          | Shaft(1) loop setter     | 16-CLXENON            |
| 15               | P412421   | パッド 光電池               | Photo cell pad          | 16-CLXENON          | 45               | P412237    | 摩擦車(2) ループセッタ        | Friction wheel 2         | 16-CLXENON            |
| 16               | 4P55791   | 取付ネジ カバー機構部           | Screw cover machine     | 16-CLXENON<br>16-AA | 46               | 6B00400702 | ラジアル玉軸受 4×7×2        | B.-bearing (SSL-740) 4-7 | *16-CLXENON<br>16-AA  |
| 17               | 4P55580   | 段付ネジ 第1スプロケットシュー      | Screw sprocket shoe     | 16-CLXENON          | 47               | 4P55616    | 間座 摩擦車               | Washer friction wheel    | 16-CLXENON            |
| 18               | P412200   | ガイドローラ(1)             | Guide roller 1          | 16-CLXENON          | 48               | 4P31849    | リンク(1) ループセッタ        | Link(1) loop setter      | 16-CLXENON            |
| 19               | 4P55571   | 間座 取付板ガイドローラ(1)       | Washer holder roller 1  | 16-CLXENON          | 49               | P412929B   | 組立ガイドレバー 爪逃シ         | Guide lever assy         | 16-CLXENON            |
| 20               | 4P55583   | バネ 取付板ガイドローラ(1)       | Spring holder roller 1  | 16-CLXENON          | 50               | 4P55657    | 間座(1) 摩擦車            | Washer(1) friction wheel | 16-CLXENON            |
| 21               | 4P55625   | 間座 ガイドローラ(1)          | Washer guide roller 1   | 16-CLXENON          | 51               | 4P55230    | ネジ(1) ループフォーマ        | Loop former screw 1      | 16-CLXENON<br>16-AA   |
| 22               | P412174   | 取付板 ガイドローラ(1)         | Holder guide roller 1   | 16-CLXENON          | 52               | 4P55629    | 間座 バネリンク(1)          | Washer spring link 1     | 16-CLXENON            |
| 23               | P412340   | コード押エ                 | Cord supporter          | 16-CLXENON          | 53               | 4P55592    | バネ リンク(1)スプロケットシュー   | Spring link 1            | 16-CLXENON            |
| 24               | P412181   | 巻込ヨケ スプロケット           | Film guide sprocket     | 16-CLXENON          | 54               | 4P31850B   | リンク(1) スプロケットシュー     | Link(1) sprocket shoe    | 16-CLXENON            |
| 25               | P412215   | ガイドローラ(2)             | Guide roller 2          | 16-CLXENON          | 55               | 4P55598    | 段付ネジ リンク(1)スプロケットシュー | Screw link 1             | 16-CLXENON            |
| 26               | P413143   | ストッパ ガイドローラ(3)        | Stopper guide roller 3  | 16-CLXENON          |                  |            |                      |                          |                       |
| 27               | 4P55584   | 段付ネジ レバーガイドローラ(2)     | Screw guide roller 2    | 16-CLXENON          |                  |            |                      |                          |                       |
| 28               | P412157B  | 組立レバー ガイドローラ(2)       | Lever guide roller 2    | 16-CLXENON          |                  |            |                      |                          |                       |
| 29               | P415214   | 組立リンク(2) スプロケットシュー(2) | Link(2) sprocket shoe 2 | *16-CLXENON         |                  |            |                      |                          |                       |
| 30               | 4P55570   | 間座 リンク(2)             | Washer link 2           | 16-CLXENON          |                  |            |                      |                          |                       |

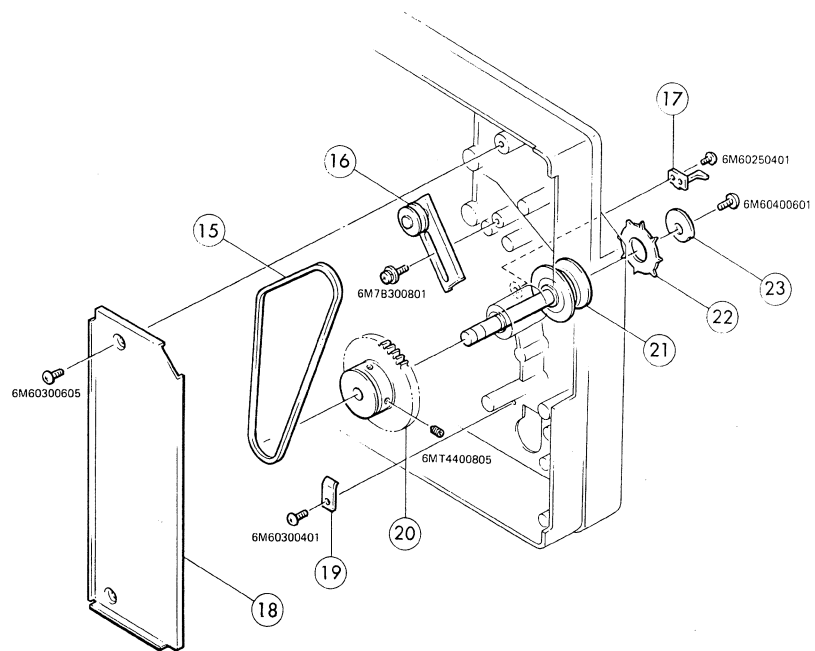
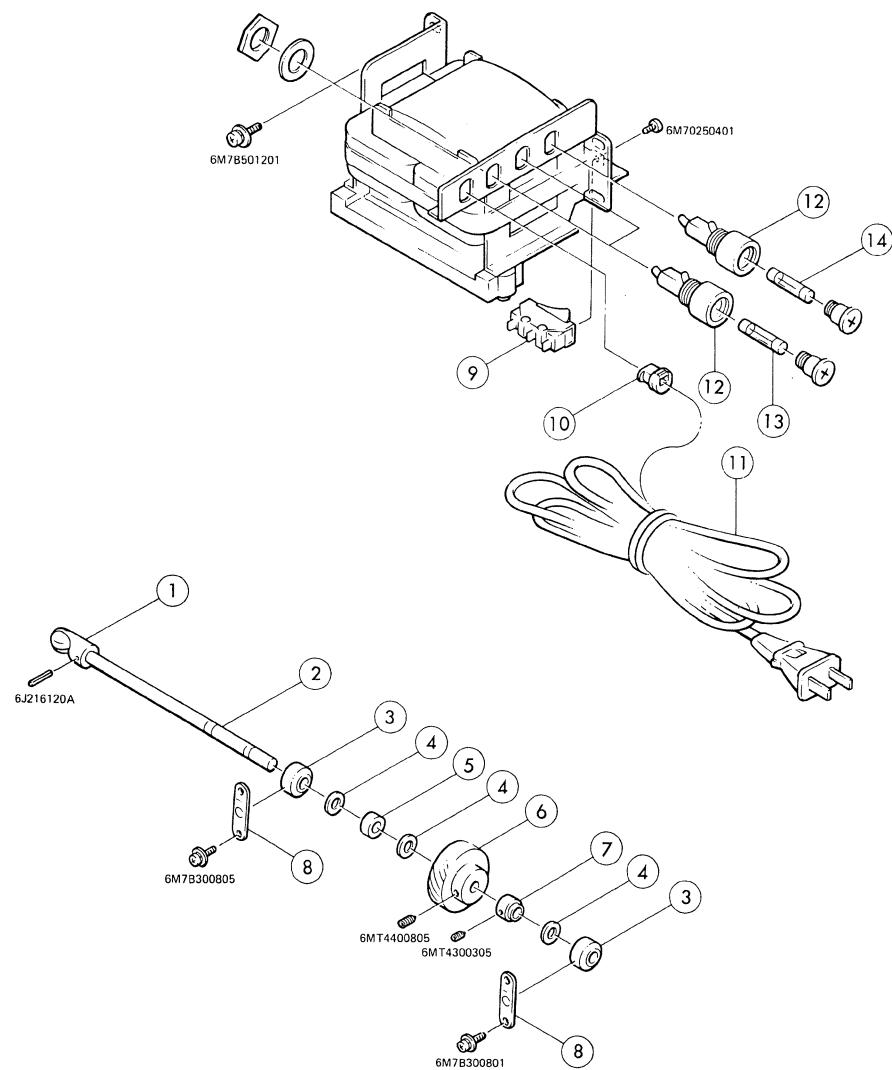




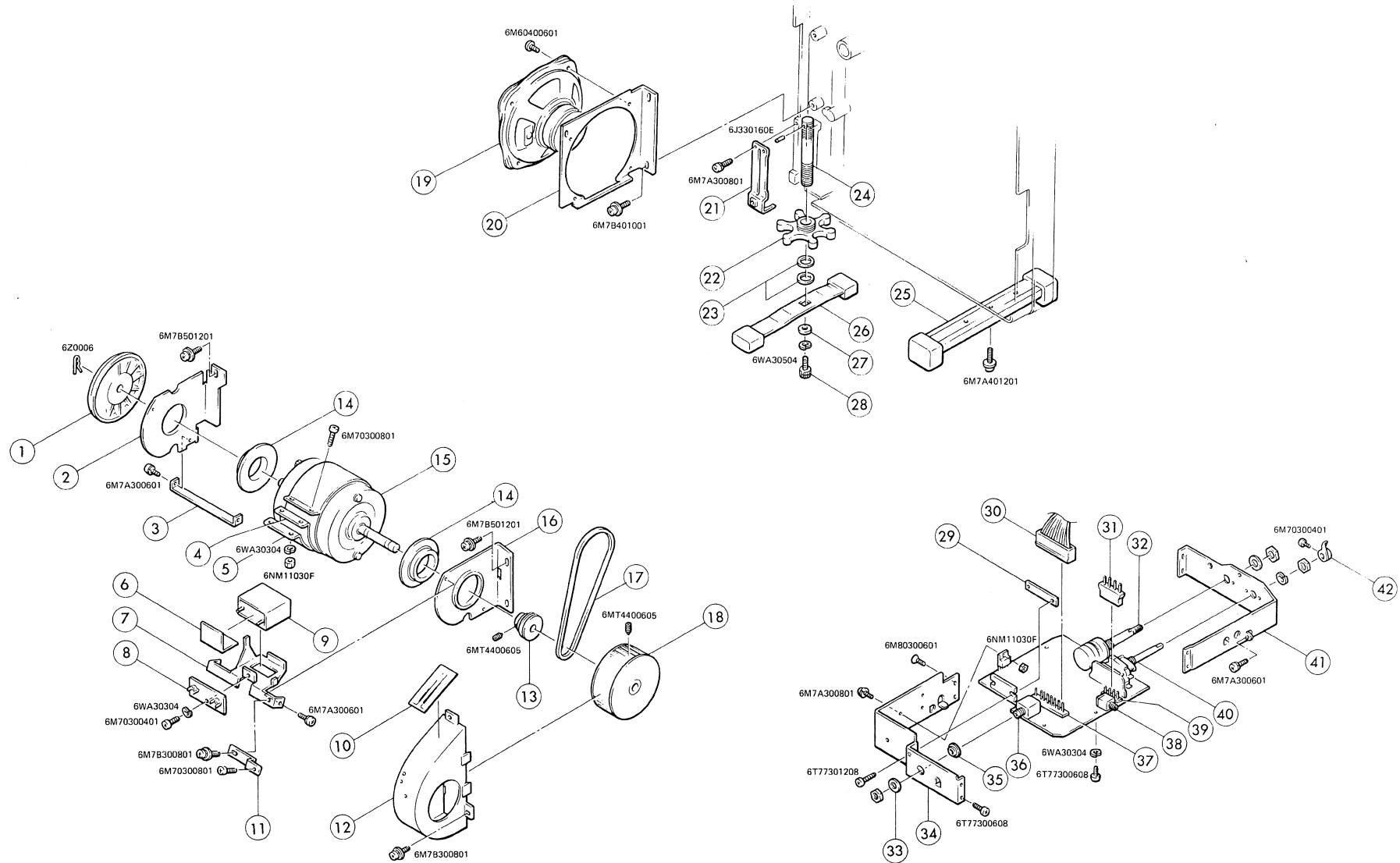
| Illustration No. | Parts No.  | Parts Name            |                              | Common Use Model     | Illustration No. | Parts No. | Parts Name         |                           | Common Use Model       |
|------------------|------------|-----------------------|------------------------------|----------------------|------------------|-----------|--------------------|---------------------------|------------------------|
| 1                | 4P55081    | ネジ フレーム 給送部           | Frame screw                  | 16-CLXENON<br>16-AA  | 31               | P411328   | ベアリングホルダ           | Bearing holder            | 16-CLXENON<br>16-F     |
| 2                | 4P52527    | モータ取付 ネジワッシャ          | Motor fix screw washer       | 16-CLXENON<br>16-AA  | 32               | 4P31852   | 組立シャッタ(1)          | Shutter(1) assy           | 16-CLXENON             |
| 3                | P412284    | ウォーム(1)               | Worm 1                       | 16-CLXENON           | 33               | P412185   | ツマミ マスキング          | Knob masking              | 16-CLXENON             |
| 4                | 4P55452    | 座金 ウォーム               | Sprocket worm washer         | 16-CLXENON<br>16-F   | 34               | P412189   | 軸 マスキング            | Shaft masking             | 16-CLXENON             |
| 5                | 4P54650    | 円筒カム軸 ワッシャ(2)         | Cam shaft washer 2           | 16-CLXENON<br>16-AA  | 35               | 4P52856   | マスキング座金            | Masking washer            | 16-CLXENON<br>16-F     |
| 6                | P414075    | 組立間欠給送装置フレーム          | Frame claw unit              | 16-CLXENON           | 36               | 4P52855   | マスキングバネ            | Masking spring            | 16-CLXENON<br>16-F     |
| 7                | P411319B   | 軸 送り爪(1)支点            | Fulcrum shaft claw           | 16-CLXENON<br>16-AA  | 37               | 4P41729D  | マスキングカム            | Masking cam               | 16-CLXENON<br>*16-F    |
| 8                | P410661    | 制動バネ 中間ギヤ             | Middle gear brake spring     | 16-CLXENON<br>16-AA  | 38               | 4P41731   | アパーチュアプレート取付板      | Aperture plate holder     | 16-CLXENON<br>16-F     |
| 9                | P412043    | フェルト 支点送り爪            | Felt fulcrum claw            | 16-CLXENON<br>16-AA  | 39               | P412199   | 押エ板 アパーチュアプレート     | A.P. pressing plate       | 16-CLXENON             |
| 10               | P411322    | ワッシャ 送り爪軸             | Washer claw shaft            | 16-CLXENON<br>16-AA  | 40               | 4P55796   | ピン レバー爪逃シ          | Pin lever claw escape     | 16-CLXENON             |
| 11               | P411335C   | 組立三角カム軸               | Triangle cam shaft assy      | 16-CLXENON<br>*16-F  | 41               | 4P55653   | プレッシャプレートバネ        | Pressure plate spring     | 16-CLXENON<br>16-AA    |
| 12               | P411317B   | 面カム                   | Face cam                     | 16-CLXENON<br>*16-AA | 42               | 4P55775   | 段付ネジ レバー爪逃シ        | Screw lever claw escape   | 16-CLXENON             |
| 13               | P411318B   | 三角カム                  | Triangle cam                 | 16-CLXENON<br>*16-AA | 43               | P412924   | 組立(1)レバー 爪逃シ       | Lever(1) assy claw escape | 16-CLXENON             |
| 14               | 4P54523    | スプロケットギヤ間座(1)         | Washer(1) sprocket gear      | 16-CLXENON<br>ST-600 | 44               | 4P55795   | 間座 レバー爪逃シ          | Washer lever claw escape  | 16-CLXENON             |
| 15               | 4P54541    | スプロケットシャフト間座(1)       | Washer (0.1 × 6.1 × 9.5) PBP | 16-CLXENON           | 45               | P412500B  | 固定ガイド アパーチュアプレート   | Settle guide              | *16-CLXENON            |
| 16               | P411323    | ピン 送り爪                | Claw pin                     | 16-CLXENON<br>16-F   | 46               | P412347   | 組立フィルムガイド(1)       | Film guide (1) assy       | 16-CLXENON<br>*16-F    |
| 17               | P412993B   | 組立(2) 送り爪(1)          | Claw(1) assy                 | 16-CLXENON           | 47               | P412350B  | 組立プレッシャプレート        | Pressure plate assy       | *16-CLXENON            |
| 18               | 4P55055B   | 間座 アオリバネ              | Tilting spring washer        | 16-CLXENON<br>16-AA  | 48               | P412349B  | 組立ホルダ(2) プレッシャプレート | Holder(2) pressure plate  | *16-CLXENON            |
| 19               | 4P55650    | 間座 バネ送り爪              | Washer claw spring           | 16-CLXENON<br>16-AA  | 49               | P413915   | 油ヨケ 給送部            | Oil guard claw frame      | 16-CLXENON             |
| 20               | P411326    | バネ 送り爪枠               | Spring slide plate claw      | 16-CLXENON<br>16-AA  | 50               | 4P41884C  | マスキングカム ガイド        | Masking guide             | *16-CLXENON<br>*16-F   |
| 21               | P412193    | 間座 送り爪枠               | Washer slide plate claw      | 16-CLXENON<br>16-AA  | 51               | 4P48357C  | 中間遮熱板              | Heat shielding plate 2    | *16-CLXENON<br>*16-F   |
| 22               | P411325    | 送り爪枠                  | Slide plate claw             | 16-CLXENON<br>16-AA  | 52               | 4P32265   | アパーチュアプレート(2)      | Aperture plate 2          | *16-F                  |
| 23               | P411298    | フェルト                  | Oil cloth 1                  | 16-CLXENON<br>16-F   | 53               | P412260   | バネ プレッシャプレートホルダ    | Spring P.P. holder        | 16-CLXENON             |
| 24               | P411507    | 固定バネ 油含ミ              | Fix spring oil cloth         | 16-CLXENON<br>16-F   | 54               | P412345   | 組立フィルム横押エ(1)       | Film side presser 1       | 16-CLXENON             |
| 25               | 6B20601902 | ラジアル玉軸受 6 × 19 × 6・PO | B.-bearing (626-2NK) 6-19    | 16-CLXENON<br>16-AA  | 55               | P412346   | 組立フィルム横押エ(2)       | Film side presser 2       | 16-CLXENON<br>*16-F    |
| 26               | P411327B   | バネ 送り爪                | Spring claw                  | 16-CLXENON<br>16-AA  | 56               | 4P55603   | 段付ネジ フィルム横押エ       | Screw film side presser   | 16-CLXENON<br>*16-F    |
| 27               | 4P55945    | ワッシャ(2) 送り爪軸          | Washer(2) claw shaft         | 16-CLXENON           | 57               | 4P55611   | バネ フィルム横押エ         | Spring film side presser  | 16-CLXENON<br>*16-F    |
| 28               | 4P54652    | クラッチレバー間座             | Clutch lever washer          | 16-CLXENON<br>16-AA  | 58               | P412143   | 取付板 プレッシャプレート      | Holder pressure plate     | 16-CLXENON             |
| 29               | P412558    | 上側フェルト 支点送り爪          | Felt fulcrum claw            | 16-CLXENON<br>16-AA  | 59               | 4P55804   | 段付ネジ 連桿            | Screw link                | *16-CLXENON<br>K-120SM |
| 30               | 4P31692    | 蓋 給送部                 | Frame lid                    | 16-CLXENON<br>16-F   | 60               | P412348   | 組立ホルダ(1) プレッシャプレート | Holder(1) pressure plate  | 16-CLXENON             |



| Illustration No. | Parts No.  | Parts Name        |                            | Common Use Model      | Illustration No. | Parts No.  | Parts Name          |                           | Common Use Model      |
|------------------|------------|-------------------|----------------------------|-----------------------|------------------|------------|---------------------|---------------------------|-----------------------|
| 1                | 4P8CL0033  | 巻返スリップ機構組立品       | Slip machinery assy rewind | 16-CLXENON            | 31               | 5R2B005061 | 巻線抵抗 5Ω1W           | Wire wound R. 5Ω1W        | 16-A                  |
| 2                | 4P55599    | ナット 摩擦板           | Nut friction plate         | 16-CLXENON            | 32               | 5DK0660221 | フィルムコンデンサ 6MF 200WV | Polyest film 6MF/200WV    |                       |
| 3                | P412328    | 摩擦板(4)            | Friction plate 4           | 16-CLXENON            | 33               | 5E7022     | リレー LY2F-EM         | Relay (LY2F-EM)           | 16-AA                 |
| 4                | 4P55600    | バネ 摩擦板            | Spring friction plate      | 16-CLXENON            | 34               | 6Y49491003 | 電磁クラッチ ZCF-10B      | Magnet clutch (ZCF-10B)   | 16-CLXENON            |
| 5                | P412261    | 組立摩擦板             | Friction plate assy        | 16-CLXENON            | 35               | 4P55651    | テフロンワッシャ 8.1×14×0.3 | Washer (8.1×14×0.3) PTFE  | 16-CLXENON            |
| 6                | P412232    | ギヤ(2) 巻返          | Gear(2) rewind             | 16-CLXENON            | 36               | P412523B   | バネ(2) 電磁クラッチ        | Spring(2) magnet clutch   | 16-CLXENON            |
| 7                | P412316    | 組立摩擦板(3)          | Friction plate(3) assy     | 16-CLXENON            | 37               | P412131    | 側板 電磁クラッチ           | Side plate magnet clutch  | 16-CLXENON            |
| 8                | P412264    | ボス 摩擦板            | Boss friction plate        | 16-CLXENON            | 38               | 4P55609    | バネ(1) 電磁クラッチ        | Spring(1) magnet clutch   | 16-CLXENON            |
| 9                | 6B10802201 | ラジアル玉軸受 8×22×7・PO | B.-bearing(608Z)8×22       | *16-CLXENON           | 39               | P412287    | ストッパ バネ電磁クラッチ       | Stopper spring clutch     | 16-CLXENON            |
| 10               | P412133    | 間座 外軸 アーム         | Washer outer shaft arm     | 16-CLXENON            | 40               | P412272    | ギヤ(1) 巻返            | Gear(1) rewind            | 16-CLXENON            |
| 11               | P412156    | ロックバネ ボスアーム       | Lock spring boss arm       | 16-CLXENON            | 41               | 4P55602    | 間座 第1スプロケット         | Washer first sprocket     | 16-CLXENON            |
| 12               | P412257    | ボタン アーム(1)巻返      | Button arm(1) rewind       | 16-CLXENON            | 42               | P412270    | 組立ウォームギヤ(1)         | Worm gear(1) assy         | 16-CLXENON            |
| 13               | 4P55555    | バネ アームボタン         | Spring arm button          | 16-CLXENON<br>16-AA   | 43               | P412159    | 第1スプロケット            | First sprocket            | 16-CLXENON            |
| 14               | 4P47107    | ネジ ランプソケットホルダ     | Lamp socket holder screw   | 16-CLXENON<br>16-AA   | 44               | 4P55577    | バネ 第1スプロケット         | Spring first sprocket     | 16-CLXENON            |
| 15               | 4P55642    | ワッシャ 角棒巻返         | Washer square shaft        | 16-CLXENON            | 45               | P412338    | 歯 第1スプロケット          | Cog first sprocket        | 16-CLXENON            |
| 16               | 4P31853    | 組立アーム(1) 巻返       | Arm(1) rewind assy         | 16-CLXENON            | 46               | P412141    | キャップ スプロケット         | Cap sprocket              | 16-CLXENON            |
| 17               | 4P55623    | 制動バネ 巻返           | Brake spring rewind        | 16-CLXENON            | 47               | P412170    | Vプーリ(2) 巻取          | V pulley(2) take-up       | 16-CLXENON            |
| 18               | 4P55635    | 間座 プーリ軸巻返         | Washer pulley shaft        | 16-CLXENON            | 48               | P412283    | 組立アーム(1) 巻取         | Arm(1) take-up assy       | 16-CLXENON            |
| 19               | P412321    | シンクロベルト           | Synchro belt (206XL016G)   | 16-CLXENON            | 49               | P414086    | 座板 制動バネ巻取           | Washer brake spring       | 16-CLXENON            |
| 20               | 4P8CL0039  | 巻返角棒シャフト組立品       | Rewind square shaft assy   | 16-CLXENON            | 50               | 4P55578    | 制動バネ 巻取             | Brake spring take-up      | 16-CLXENON            |
| 21               | P412384    | 組立アームガイド ローラ巻返    | Guide roller rewind assy   | 16-CLXENON            | 51               | P412211B   | ベルトローラ 巻取           | Roller belt take-up       | *16-CLXENON<br>*16-AA |
| 22               | P412212    | ベルトローラ 巻返         | Roller belt rewind         | 16-CLXENON            | 52               | 4P55605    | 段付ネジ レバーアーム         | Screw lever arm           | 16-CLXENON<br>*16-AA  |
| 23               | P412265    | 組立ボタン アーム(1)巻返    | Button arm rewind assy     | 16-CLXENON            | 53               | P415192    | プーリ(上) 巻取(2)        | Pulley take-up 2          | *16-CLXENON           |
| 24               | P412171    | プーリ軸 巻返           | Pulley shaft rewind        | 16-CLXENON            | 54               | P415262    | 組立角棒 シャフト巻取         | Square shaft take-up assy | *16-CLXENON           |
| 25               | 4P20575    | アーム(2) 巻返         | Arm(2) rewind              | 16-CLXENON            | 55               | P412126    | 組立レバー アーム巻取         | Lever arm take-up assy    | 16-CLXENON            |
| 26               | P412238B   | ホルダ スピーカ          | Holder speaker             | 16-CLXENON            | 56               | P412134    | ボタン アーム巻取           | Button arm take-up        | 16-CLXENON            |
| 27               | 4P55607    | 間座 防振ゴム           | Washer vib. proof rubber   | 16-CLXENON<br>HP-2450 | 57               | 6B10601601 | ラジアル玉軸受 6×16×5・PO   | B.-bearing(DG0616ZC)6-16  | 16-CLXENON<br>16-AA   |
| 28               | 4E42016    | 防振ゴム モータ          | Vibration proof rubber     | 16-CLXENON<br>16-F    | 58               | P412441    | 組立軸 巻取              | Shaft take-up assy        | 16-CLXENON            |
| 29               | P412290B   | 取付板 電磁クラッチ        | Holder magnet clutch       | 16-CLXENON            | 59               | P412289    | ベルト 巻取アーム           | Belt take-up arm          | 16-CLXENON<br>*16-AA  |
| 30               | 4P55638    | 間座 コンデンサ          | Washer condenser           |                       | 60               | 4P20576    | アーム(2) 巻取           | Arm(2) take-up            | 16-CLXENON            |

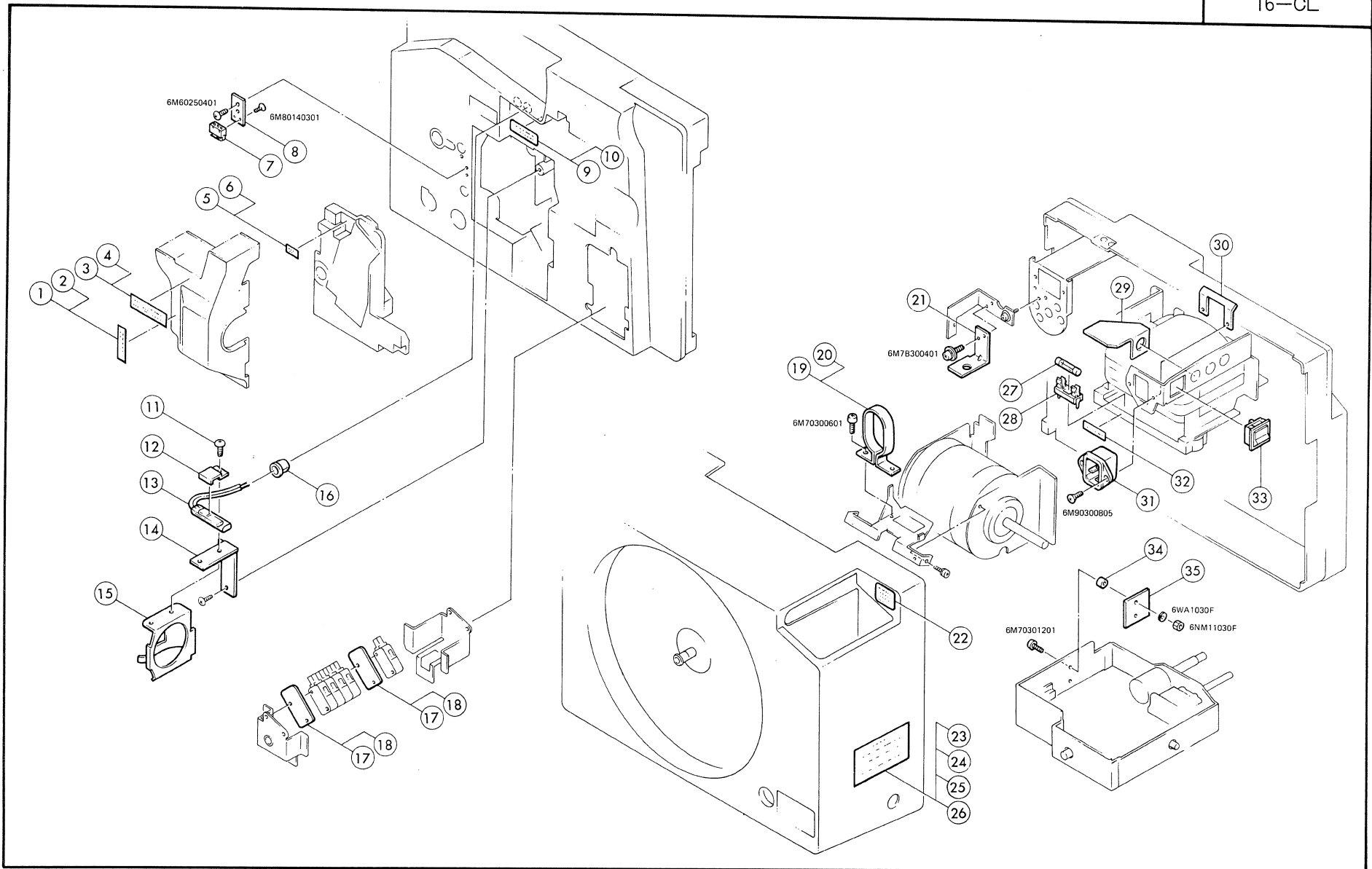






| Illustration No. | Parts No.  | Parts Name          |                          | Common Use Model        | Illustration No. | Parts No.  | Parts Name               |                           | Common Use Model     |
|------------------|------------|---------------------|--------------------------|-------------------------|------------------|------------|--------------------------|---------------------------|----------------------|
| 1                | 6Z0005     | モータファン              | Motor fan                | 16-CLXENON<br>16-AA     | 31               | 5N204122   | 4P-PCボード用コネクタ S-I 2502   | 4-P connector (S-I2502)   | 16-CLXENON           |
| 2                | 4P31848    | ホルダ(2) モータ          | Holder(2) motor          |                         | 32               | 5R4Z0014A1 | 可変抵抗 10KΩA型&10KΩB型       | VR 10K A-type+10K B-type  | 16-CLXENON           |
| 3                | P411613    | ホルダ(3) モータ          | Holder(3) motor          |                         | 33               | 4P55588    | ブッシュ(2) スピーカジャック         | Bush(2) speaker jack      | 16-CLXENON<br>SC-18  |
| 4                | 4E41882    | シールドカバー(1) モータ      | Motor shield cover 1     | 16-AA<br>F16-1000A      | 34               | 4E31504    | シャーシ(4) アンプ              | Chassis(4) amplifier      |                      |
| 5                | 4E41883    | シールドカバー(2) モータ      | Motor shield cover 2     | 16-AA<br>F16-1000A      | 35               | 4P55587    | ブッシュ(1) スピーカジャック         | Bush(1) speaker jack      | 16-CLXENON           |
| 6                | P412423    | 絶縁紙 モータコンデンサ        | Isolator motor condenser |                         | 36               | 5N50352    | 6.34mmジャック SG7622-01     | Jack 6.34mm (SG7622-01)   | 16-CLXENON           |
| 7                | P412320    | ホルダ コンデンサ           | Holder condenser         |                         | 37               | 5N211021   | 11Pフラットウエハ 5275-11A      | 11-P connector (5275-11A) |                      |
| 8                | 4E42753    | 組立端子板 モータコンデンサ      | Terminal motor condenser |                         | 38               | 5N50392    | 3.5mm M-7ジャック X-G 8017   | Jack 3.5mm (M-7XG8017)    | 16-CLXENON<br>ST-180 |
| 9                | 5DJ0172211 | コンデンサ 10MF 220WV    | Polyest film 10MF/220WV  | 16-AA                   | 39               | 5N204121   | 4P-PCボード用コネクタ 48-0009    | 4-P pin connector 1       | 16-CLXENON           |
| 10               | 4N01937    | 銘板 ベルト切替指示          | Belt changing indicator  | 16-AA<br>16-F           | 40               | 5E9008     | E形ロータリスイッチ ESR-E132F50BP | Rotary switch             | 16-CLXENON           |
| 11               | P412437    | ホルダ ファンケーシング        | Holder fan casing        |                         | 41               | 4P31842    | シャーシ(1) アンプ              | Chassis(1) amplifier      | 16-CLXENON           |
| 12               | 4P31837    | ファンケーシング            | Fan casing               |                         | 42               | P412207    | 組立レバー(2) M-O 切替          | Lever(2) M-O switch assy  | 16-CLXENON           |
| 13               | P412240    | プーリ(1) モータ          | Pulley(1) motor          |                         |                  |            |                          |                           |                      |
| 14               | P412258    | 防振ゴム モータ            | Vib. proof rubber motor  |                         |                  |            |                          |                           |                      |
| 15               | 5V2016     | モータ 2KC-40CL        | Motor (2KC-40CL)         |                         |                  |            |                          |                           |                      |
| 16               | P412259    | ホルダ(1) モータ          | Holder(1) motor          |                         |                  |            |                          |                           |                      |
| 17               | 6VV3M375   | Vベルト メイン 3M375      | V belt main (3M375)      | 16-CLXENON              |                  |            |                          |                           |                      |
| 18               | P412292    | ファン                 | Fan                      |                         |                  |            |                          |                           |                      |
| 19               | 5V1024     | スピーカ 12I60CP-S00857 | Speaker (12I60CP-S00857) | *16-CLXENON             |                  |            |                          |                           |                      |
| 20               | 4P31832C   | 取付板 スピーカ            | Fix plate speaker        | *16-CLXENON             |                  |            |                          |                           |                      |
| 21               | P412243    | 取付金具 アオリ棒           | Metal tilting leg        | 16-CLXENON              |                  |            |                          |                           |                      |
| 22               | P412146    | アオリツマミ              | Tilting knob             | 16-CLXENON<br>GS-1200   |                  |            |                          |                           |                      |
| 23               | 4P54074    | 巻取巻戻バネ座金            | Pulley washer            | 16-CLXENON<br>16-AA     |                  |            |                          |                           |                      |
| 24               | P412178B   | アオリ棒                | Tilting leg              | 16-CLXENON<br>*GS-1200  |                  |            |                          |                           |                      |
| 25               | P414946    | 後足(2)               | Rear leg                 | *16-CLXENON<br>SC-30    |                  |            |                          |                           |                      |
| 26               | P412153B   | 前足                  | Front leg                | *GS-1200                |                  |            |                          |                           |                      |
| 27               | 4P55664    | ワッシャ アオリ棒           | Washer tilting leg       | 16-CLXENON<br>GS-1200   |                  |            |                          |                           |                      |
| 28               | 6FM3050125 | 六角穴付ボルト M5×12       | Hexagon hole bolt M5×12  | *16-CLXENON<br>*GS-1200 |                  |            |                          |                           |                      |
| 29               | 4E50881    | 押エ板 IC3 アンプ         | Plate IC3 amp.           |                         |                  |            |                          |                           |                      |
| 30               | 4P8CL0041  | 連結コード組立品            | 11-P connection cord     |                         |                  |            |                          |                           |                      |





## EXPORT TYPE

| Illustration No. | Parts No. | Parts Name               | Remarks                                                                                     | Illustration No. | Parts No. | Parts Name               | Remarks                                                                  |                          |
|------------------|-----------|--------------------------|---------------------------------------------------------------------------------------------|------------------|-----------|--------------------------|--------------------------------------------------------------------------|--------------------------|
| 1                | 4N02670   | Guide plate lamp replace | Canada                                                                                      | 21               | P412967B  | Holder condenser         | W.Germany                                                                |                          |
| 2                | 4N02528   | Plate lamp replace       | Others                                                                                      | 22               | 4N02143   | Plate caution            | U.S.A.                                                                   |                          |
| 3                | 4N02571   | Plate(2) lamp cover      | Finland                                                                                     | 23               | 4N00437   | Cover plate 2            | Denmark                                                                  |                          |
| 4                | 4N03108   | Plate lamp cover         | W.Germany                                                                                   | 24               | 4N01890   | Caution plate cover      | England Finland France<br>Norway Sweden Switzerland<br>W.Germany         |                          |
| 5                | 4N02547B  | Plate exciter rating     | Denmark England Finland<br>France Korea Norway<br>Sweden Switzerland<br>U.S.A. W.Germany    |                  | 25        | 4N02578                  | Plate caution                                                            | U.S.A.                   |
|                  |           |                          |                                                                                             |                  | 26        | 4N03309                  | Caution plate back cover                                                 | Canada                   |
| 6                | 4N02663   | Plate exciter rating     | Canada                                                                                      | 27               | 5H1016001 | Midget fuse (1.6A)       | Norway                                                                   |                          |
| 7                | 5E1068    | Micro switch (AH111261)  | W.Germany                                                                                   | 28               | 5H2021    | Fuse holder (No.19633)   | Norway                                                                   |                          |
| 8                | P414372   | Holder micro switch      | W.Germany                                                                                   | 29               | P412997   | Cover(2) main switch     | Denmark England Finland<br>France Norway Sweden<br>Switzerland W.Germany |                          |
| 9                | 4N02582   | Indication plate(2) lamp | Denmark England Finland<br>France Norway Sweden<br>Switzerland W.Germany                    |                  | 30        | P414178                  | Cover(3) main switch                                                     | Finland Sweden W.Germany |
| 10               | 4N02527   | Indication plate lamp    | Others                                                                                      | 31               | 5N203212  | 3-P connector 1 (6062-1) | Finland Norway<br>Sweden W.Germany                                       |                          |
| 11               | 4P47107   | Lamp socket holder screw | W.Germany                                                                                   |                  |           |                          |                                                                          |                          |
| 12               | P414177   | Holder thermostat        | W.Germany                                                                                   | 32               | 4N02610   | Fuse plate               | Norway                                                                   |                          |
| 13               | 5E9026    | Thermostat (9700L-21-11) | W.Germany                                                                                   | 33               | 5E6023    | Main switch (1802-0121)  | Denmark England Finland<br>France Norway Sweden<br>Switzerland W.Germany |                          |
| 14               | P414081   | Fix mount lamp holder    | W.Germany                                                                                   |                  |           |                          |                                                                          |                          |
| 15               | P414829   | Holder lamp              | W.Germany                                                                                   |                  |           |                          |                                                                          |                          |
| 16               | 5G5042    | Cord bush (SB-375-4)     | W.Germany                                                                                   | 34               | 4P48821B  | Washer loop setter       | France                                                                   |                          |
| 17               | 4E42945   | Isolation paper          | Finland                                                                                     | 35               | 4E43442   | Filter circuit assy      | France                                                                   |                          |
| 18               | 4P52650   | Switch isolator          | Denmark England France<br>Norway Sweden Switzerland<br>W.Germany                            |                  |           |                          |                                                                          |                          |
| 19               | P412509   | Holder condenser         | Australia Denmark England<br>Finland France Kuwait<br>Norway S.Africa Sweden<br>Switzerland |                  |           |                          |                                                                          |                          |
| 20               | P412968   | Holder condenser         | W.Germany                                                                                   |                  |           |                          |                                                                          |                          |

| Item No. | Page and Illustration No.      | Parts No.  | Parts Name              | Remarks                                        | Item                | Page and Illustration No. | Parts No.                 | Parts Name                | Remarks                                                                            |
|----------|--------------------------------|------------|-------------------------|------------------------------------------------|---------------------|---------------------------|---------------------------|---------------------------|------------------------------------------------------------------------------------|
| 1        | 1 - 1                          | 4P8CL0003  | Rear cover(1) assy      | Canada U.S.A.                                  | 20                  | 2 - 25                    | 4N02514                   | Plate(1) fuse             | Korea Taiwan U.S.A.                                                                |
| 2        |                                | 4P8CL0063  | Rear cover(3) assy      | Denmark England France Switzerland             | 21                  |                           | 4N02515                   | Plate(2) fuse             | Australia Kuwait S.Africa                                                          |
| 3        |                                | 4P8CL0095  | Rear cover(4) assy      | Finland Norway Sweden W.Germany                | 22                  |                           | 4N02583                   | Plate(3) fuse             | Denmark England Finland France Norway Sweden Switzerland W.Germany                 |
| 4        |                                | 4P8CL0129  | Rear cover(5) assy      | Australia Kuwait S.Africa Taiwan               | 23                  |                           | 4N02679                   | Plate(5) fuse             | Canada                                                                             |
| 5        |                                | 4P8CL0052  | Rear cover(2) assy      | Others                                         | 24                  |                           | 4N02600                   | Plate(4) fuse             | Others                                                                             |
| 6        | 1 - 2                          | 4E20446    | Transformer(1) assy     | Taiwan U.S.A.                                  | 25                  | 2 - 26                    | 4N02521                   | Rating plate 2            | U.S.A.                                                                             |
| 7        |                                | 4E20447    | Transformer(2) assy     | Australia Kuwait S.Africa                      | 26                  |                           | 4N02536                   | Rating plate 3            | Canada                                                                             |
| 8        |                                | 4E20455    | Transformer(3) assy 2   | Canada Korea                                   | 27                  |                           | 4N02549                   | Rating plate 5            | Denmark England Finland France Kuwait Norway S.Africa Sweden Switzerland W.Germany |
| 9        |                                | 4E20473    | Transformer(5) assy 2   | Denmark England France Switzerland             |                     |                           |                           |                           |                                                                                    |
| 10       |                                | 4E20502    | Transformer(6) assy 2   | Norway                                         |                     |                           |                           |                           |                                                                                    |
| 11       |                                | 4E20522    | Transformer(3) assy 5   | Austria                                        | 28                  |                           | 4N02573                   | Rating plate 6            | Brazil Colombia Korea Libya Mexico Panama Tahiti Taiwan                            |
| 12       |                                | 4E20598    | Transformer(8) assy 2   | Finland Sweden W.Germany                       |                     |                           |                           |                           |                                                                                    |
| 13       |                                | 4E20471    | Transformer(4) assy 2   | Others                                         | 29                  |                           | 4N02604                   | Rating plate 8            | Australia                                                                          |
| 14       | 1 - 3                          | 4P8CL0123  | Amplifier assy          | ELMO (Europe) Territory                        | 30                  | 4N02574                   | Rating plate 7            | Others                    |                                                                                    |
| 15       |                                | 4P8CL0124  |                         | France                                         | 31                  | 4K00877                   | Spare fuse holder assy    | Canada Korea Taiwan       |                                                                                    |
| 16       |                                | 4P8CL0122  |                         | Others                                         | 32                  | 4K00878                   | Spare fuse holder(2) assy | U.S.A.                    |                                                                                    |
| 17       | 1 - 4                          | 4P8CL0094C | Claw section frame assy | [50Hz]<br>Europe<br>Option for other countries | 33                  | 3 - 40                    | 4K00881                   | Spare fuse holder(5) assy | Denmark England Finland France Norway Sweden Switzerland W.Germany                 |
| 18       |                                | 4P8CL0118C |                         | [50Hz/60Hz W/3-Blade shutter]                  | 34                  |                           | 4K00882                   | Spare fuse holder(6) assy | Australia Kuwait S.Africa                                                          |
|          |                                |            |                         | Canada Korea Taiwan U.S.A.                     | 35                  |                           | 4K00880                   | Spare fuse holder(4) assy | Others                                                                             |
|          |                                |            |                         | U.S.A.                                         | 36                  | 5G5042                    | Cord bush (SB-375-4)      | W.Germany                 |                                                                                    |
| 19       |                                | 4P8CL0001C |                         | [50Hz/60Hz]                                    | 37                  | 3 - 44                    | 5G5038                    | Cord bush (SB-375-3)      | Others                                                                             |
|          |                                |            |                         | Others countries                               | 38                  |                           | 4K01069                   | Lamp socket               | W.Germany                                                                          |
|          | Option for the above countires |            | 39                      | 5N1022                                         | Lamp socket (QLV-8) | Others                    |                           |                           |                                                                                    |
|          |                                |            |                         |                                                |                     |                           |                           |                           |                                                                                    |

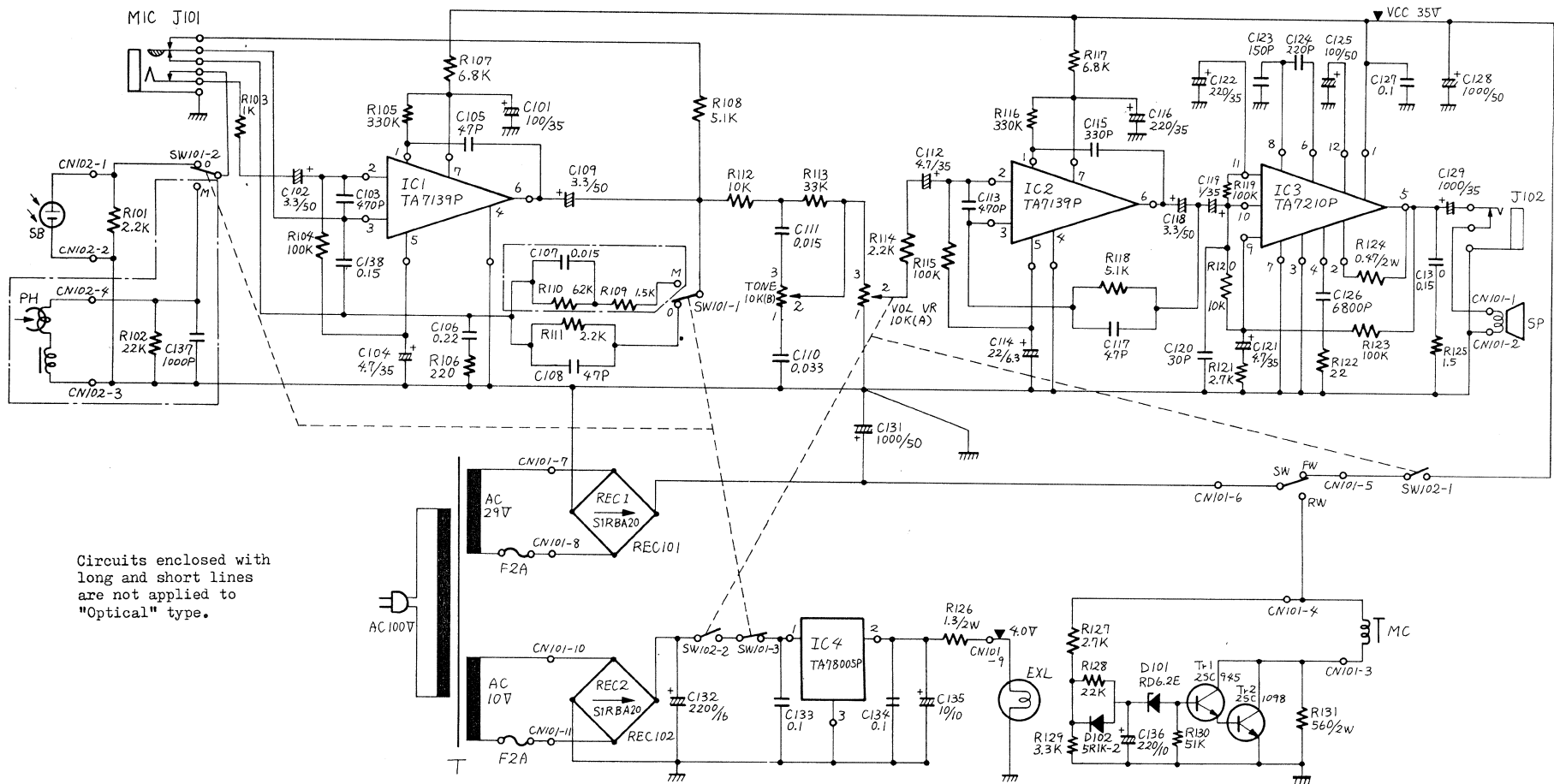
## EXPORT TYPE

| Item No. | Page and Illustration No. | Parts No.  | Parts Name                | Remarks                                                                                     | Item No.       | Page and Illustration No.                                                                             | Parts No.              | Parts Name                | Remarks                                                                                                       |                                                         |
|----------|---------------------------|------------|---------------------------|---------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------|------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 40       | 5 - 35                    | 5E1048     | Micro switch (1005-1004)  | Sweden W.Germany                                                                            | 55             | 7 - 33                                                                                                | 5E7041                 | Relay (LY2F-EM1)          | Australia Denmark England                                                                                     |                                                         |
| 41       |                           | 5E1072     | Micro switch (AH715089)   | Others                                                                                      |                |                                                                                                       |                        |                           | Finland France Kuwait                                                                                         |                                                         |
| 42       | 5 - 36                    | 5E1048     | Micro switch (1005-1004)  | Sweden W.Germany                                                                            |                |                                                                                                       | Norway S.Africa Sweden |                           |                                                                                                               |                                                         |
| 43       |                           | 5E1041     | Micro switch (V3C2)       | Others                                                                                      |                |                                                                                                       | Switzerland W.Germany  |                           |                                                                                                               |                                                         |
| 44       | 5 - 41                    | P414784    | Base frame                | W.Germany                                                                                   | 56             |                                                                                                       | 5E7022                 | Relay (LY2F-EM)           | Others                                                                                                        |                                                         |
| 45       |                           | 4P10439    | Base frame 2              | Others                                                                                      |                |                                                                                                       |                        |                           |                                                                                                               |                                                         |
| 46       | 6 - 32                    | 4P31884    | Shutter (2) assy          | [50Hz]<br>Europe<br>Option for other countries                                              | 57             | 8 - 9                                                                                                 | 5E6011                 | Seesaw switch (1603-3101) | Australia Austria Denmark<br>England Finland France<br>Kuwait Norway S.Africa<br>Sweden Switzerland W.Germany |                                                         |
| 47       |                           | 4P31896    | Shutter assy (3-blade)    | [50Hz/60Hz W/3-Blade shutter]                                                               | 58             |                                                                                                       | 5E6009                 | Seesaw switch (WD31019)   | Others                                                                                                        |                                                         |
|          |                           |            |                           | Canada Korea<br>Taiwan U.S.A.                                                               | 59             |                                                                                                       | 4K00747                | Power cord 2              | Canada U.S.A.                                                                                                 |                                                         |
|          |                           |            |                           |                                                                                             | 60             |                                                                                                       | 4K00748                | Power cord 4 (Swtz.)      | Switzerland                                                                                                   |                                                         |
| 48       |                           | 4P31852    | Shutter(1) assy           | [50Hz/60Hz]<br>Other countries<br>Option for the above countries                            | 61             |                                                                                                       | 8 - 11                 | 4K00749                   | Power cord 7                                                                                                  | Malaysia Malta Singapore                                |
|          | 62                        |            |                           | 4K00750                                                                                     | Power cord 5   | England Israel S.Africa                                                                               |                        |                           |                                                                                                               |                                                         |
|          | 63                        |            |                           | 4K00752                                                                                     | Power cord 6   | Australia Fiji N.Guinea                                                                               |                        |                           |                                                                                                               |                                                         |
| 49       | 7 - 26                    |            |                           | P412519E                                                                                    | Holder speaker | Australia Denmark England<br>Finland France Kuwait<br>Norway S.Africa Sweden<br>Switzerland W.Germany |                        | 64                        | 4K00754                                                                                                       | Power cord 4                                            |
| 50       |                           | P412238B   | Others                    | 65                                                                                          |                | 4K00775                                                                                               |                        | Power cord 3              | Austria Belgium Denmark<br>France Holland Iran Libya<br>Portugal Spain                                        |                                                         |
| 51       | 7 - 32                    | 5DC1550421 | Al elect con. 1.5MF/400WV | Australia Denmark England<br>Finland France Kuwait<br>Norway S.Africa Sweden<br>Switzerland | 66             | 8 - 12                                                                                                |                        | 4K00930                   | Power cord 8                                                                                                  | Others                                                  |
| 52       |                           | 5DK0460221 | Polyest film 4MF/200WV    | Canada                                                                                      | 67             |                                                                                                       |                        | 5H2016                    | Fuse holder (S-N2059)                                                                                         | Australia Canada Korea<br>Kuwait S.Africa Taiwan U.S.A. |
| 53       |                           | 5DK1650421 | Polyest film 1.6MF/400WV  | W.Germany                                                                                   | 68             |                                                                                                       | 5H2017                 | Fuse holder (NO.19601)    | Denmark England Finland<br>France Norway Sweden<br>Switzerland W.Germany                                      |                                                         |
| 54       |                           | 5DK0660221 | Polyest film 6MF/200WV    | Others                                                                                      | 69             |                                                                                                       | 5H2015                 | Fuse holder (S-N2250)     | Others                                                                                                        |                                                         |
|          |                           |            |                           |                                                                                             |                |                                                                                                       |                        |                           |                                                                                                               |                                                         |

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**PREVIOUS PARTS**  
— which are not interchangeable —

| Item No. | Page and Illustration No.         | Parts No.  | Parts Name                      |                                                                      | Item No. | Page and Illustration No. | Parts No.  | Parts Name         |                         |
|----------|-----------------------------------|------------|---------------------------------|----------------------------------------------------------------------|----------|---------------------------|------------|--------------------|-------------------------|
| 1        | 1 - 3                             | 4P8CL0008  | アンプ組立品                          | Amplifier assy                                                       | 28       | 9 - 24                    | P412178    | アオリ棒               | Tilting leg             |
| 2        |                                   | 4P8CL0001  | 間欠給送装置組立品                       | Claw section frame assy                                              | 29       | 9 - 26                    | P412153    | 前足                 | Front leg               |
| 3        | 1 - 4                             | 4P8CL0001B | 間欠給送装置組立品<br>(爪逃し機構付)           | Claw section frame assy<br>(with Retiring Claw Device)               | 30       | 9 - 34                    | 4P31843    | シャーシ(2) アンプ        | Chassis(2) amplifier    |
| 4        | 2 - <sup>10</sup> / <sub>23</sub> | 4P20569    | 前カバー(1)                         | Front cover 1                                                        | 31       | 9 - 38                    | 5N50102    | プリントジャック XG8010    | Jack 3.5mm (XG-8010)    |
| 5        | 2 - 19                            | 4P20571    | 前カバー(4)                         | Front cover 4                                                        | 32       | 11 - 17                   | 4P8CL0094B | 間欠給送装置組立品 (50Hz)   | Claw section frame assy |
| 6        | 2 -                               | P412420    | 補助バネ キャッチ<br>(旧機の前カバー(8)に使用)    | Spring catch<br>(attached to Front Cover 3 of old model)             | 33       | 11 - 18                   | 4P8CL0118B | 間欠給送装置組立品 (3枚シャッタ) | Claw section frame assy |
| 7        | 3 - 6                             | 4P31836    | 連桿(1)                           | Link 1                                                               | 34       | 11 - 19                   | 4P8CL0001B | 間欠給送装置組立品          | Claw section frame assy |
| 8        | 4 - 10                            | P412050    | ホルダ エキサイタランプ                    | Holder exciter lamp                                                  |          |                           |            |                    |                         |
| 9        | 4 - 14                            | P412104    | レバー(1) M-O 切換                   | Lever(1) M-O switch                                                  |          |                           |            |                    |                         |
| 10       | 4 - 22                            | P412095    | ネジ ヘッド                          | Screw head                                                           |          |                           |            |                    |                         |
| 11       | 4 - 24                            | P412096    | 取付板 ヘッド                         | Holder head                                                          |          |                           |            |                    |                         |
| 12       | 4 - 30                            | P412093    | 組立レバー ヘッド                       | Lever head assy                                                      |          |                           |            |                    |                         |
| 13       | 4 - 36                            | P412092    | 端子押エ エキサイタランプ                   | Terminal exciter lamp                                                |          |                           |            |                    |                         |
| 14       | 4 - 38                            | P412106    | 軸 プレッシュローラ                      | Shaft pressure roller                                                |          |                           |            |                    |                         |
| 15       | 4 - 46                            | P412056    | レバー パッドローラ                      | Lever pad roller                                                     |          |                           |            |                    |                         |
| 16       | 4 - 48                            | 4P55649    | テフロンワッシャー 4.2×8×t1              | Washer (4.2X8X1) PTFE                                                |          |                           |            |                    |                         |
| 17       | 4 - 49                            | 4P8CL0013  | 組立制動ローラ(1)                      | Brake roller(1) set                                                  |          |                           |            |                    |                         |
| 18       | 4 - 50                            | P412108    | 軸 制動ローラ(1)                      | Shaft brake roller 1                                                 |          |                           |            |                    |                         |
| 19       | 4 - 59                            | P410153    | ナット ホルダフライホイール                  | Flywheel holder nut                                                  |          |                           |            |                    |                         |
| 20       | 4 -                               | 4P55543    | バネ 制動ローラ(1)<br>(旧機の制動ローラ(1)に使用) | Spring brake roller 1<br>(used for Brake Roller(1) set of old model) |          |                           |            |                    |                         |
| 21       | 5 - 12                            | P412204    | ストッパ レバーガイドローラ(2)               | Stopper lever roller 2                                               |          |                           |            |                    |                         |
| 22       | 5 - 28                            | P412157    | 組立レバー ガイドローラ(2)                 | Lever guide roller 2                                                 |          |                           |            |                    |                         |
| 23       | 6 - 47                            | P412350    | 組立プレッシュプレート                     | Pressure plate assy                                                  |          |                           |            |                    |                         |
| 24       | 6 - 48                            | P412349    | 組立ホルダ(2) プレッシュプレート              | Holder(2) pressure plate                                             |          |                           |            |                    |                         |
| 25       | 6 - 52                            | P412168C   | アパーチャ プレート                      | Aperture plate                                                       |          |                           |            |                    |                         |
| 26       | 7 - 26                            | P412238    | ホルダ スピーカ                        | Holder speaker                                                       |          |                           |            |                    |                         |
| 27       | 9 - 20                            | 4P31832    | 取付板 スピーカ                        | Fix plate speaker                                                    |          |                           |            |                    |                         |



SCHEMATIC DIAGRAM FOR AMPLIFIER FOR ELMO 16-CL (M-O&O) E31503  
(NEW TYPE E20667 printed)

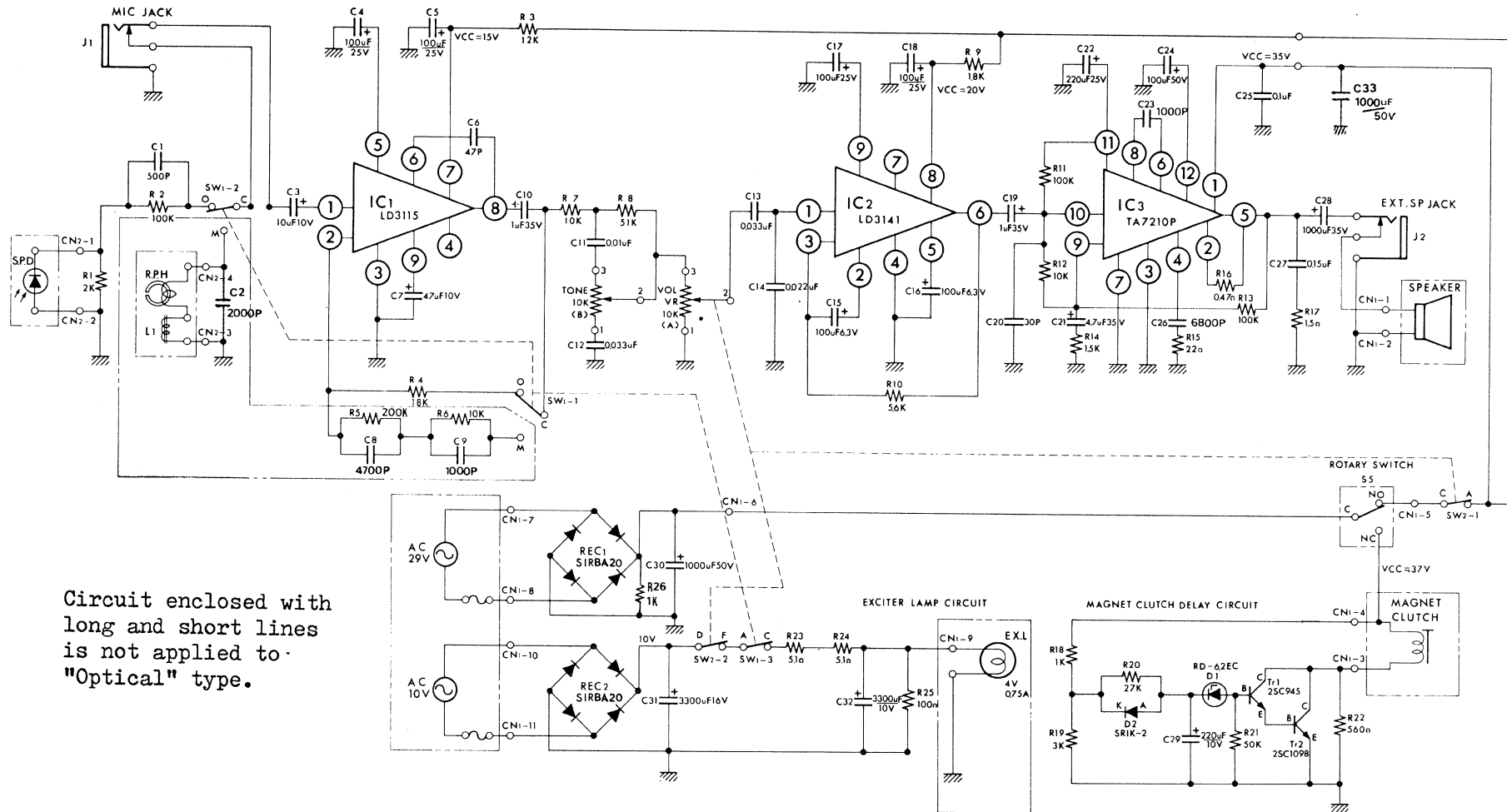
# ELECTRIC PARTS LIST

E31503

| Item           | Parts No.  | Parts Name                     | Circuit Diagram No. | Item     | Parts No.  | Parts Name               | Circuit Diagram No. |
|----------------|------------|--------------------------------|---------------------|----------|------------|--------------------------|---------------------|
| IC             | 5ATA7139P  | IC (TA7139P)                   | IC1 IC2             | 30 PF    | 5DQ0310511 | Ceramic con.30PF/50WV    | C120                |
|                | 5ATA7210P  | (TA7210P)                      | IC3                 | 47 PF    | 5DQ4700511 | 47PF/50WV                | C105 C108 C117      |
|                | 5ATA78005P | (TA78005P)                     | IC4                 | 150 PF   | 5DQ1510511 | 150PF/50WV               | C123                |
| Tr             | 5S12SC945  | Transistor (2SC945)            | Tr1                 | 220 PF   | 5DQ2210511 | 220PF/50WV               | C124                |
|                | 5S12SC1098 | (2SC1098)                      | Tr2                 | 330 PF   | 5DQ3310511 | 330PF/50WV               | C115                |
| D              | 5S2RD62E   | Zener diode (RD6.2E)           | D101                | 470 PF   | 5DQ4710511 | 470PF/50WV               | C103 C113           |
|                | 5S2SR1K2   | Si diode (SR1K-2)              | D102                | 1000 PF  | 5DQ0130511 | 1000PF/50WV              | C137                |
| REC            | 5S2S1RBA20 | Si rectifier (S1RBA20)         | REC1 REC2           | 6800 PF  | 5DJ6820511 | Polyest film 6800PF/50WV | C126                |
| VR             | 5R4Z0014A1 | VR 10K A-type + 10K B-type     | VR                  | 0.015 MF | 5DJ1530511 | 0.015MF/50WV             | C107 C111           |
|                |            |                                |                     | 0.033 MF | 5DJ3330511 | 0.033MF/50WV             | C110                |
| 0.47 $\Omega$  | 5R5B047K71 | Metal film R. 0.47 $\Omega$ 2W | R124                | 0.1 MF   | 5DJ0150514 | 0.1MF/50WV               | C127 C133 C134      |
| 1.3 $\Omega$   | 5R5B013J71 | 1.3 $\Omega$ 2W                | R126                | 0.15 MF  | 5DJ1540511 | 0.15MF/50WV              | C130 C138           |
| 1.5 $\Omega$   | 5R1C015J41 | C film fix R. 1.5 $\Omega$ ¼W  | R125                | 0.22MF   | 5DJ2240513 | 0.22MF/50WV              | C106                |
| 22 $\Omega$    | 5R1C022042 | 22 $\Omega$ ¼W                 | R122                | 1 MF     | 5DB0163501 | Al elect con. 1 MF/35WV  | C119                |
| 220 $\Omega$   | 5R1C022141 | 220 $\Omega$ ¼W                | R106                | 3.3 MF   | 5DB3350512 | 3.3 MF/50WV              | C102 C109 C118      |
| 560 $\Omega$   | 5R5B056171 | Metal film R. 560 $\Omega$ 2W  | R131                | 4.7 MF   | 5DB4753502 | 4.7 MF/35WV              | C104 C112 C121      |
| 1 K $\Omega$   | 5R1C001341 | C film fix R. 1 K $\Omega$ ¼W  | R103                | 10 MF    | 5DB0170112 | 10 MF/10WV               | C135                |
| 1.5 K $\Omega$ | 5R1C015241 | 1.5 K $\Omega$ ¼W              | R109                | 22 MF    | 5DB22663J1 | 22MF/6.3WV               | C114                |
| 2.2 K $\Omega$ | 5R1C022241 | 2.2 K $\Omega$ ¼W              | R101 R111 R114      | 100 MF   | 5DB0183502 | 100MF/35WV               | C101                |
| 2.7 K $\Omega$ | 5R1C027241 | 2.7 K $\Omega$ ¼W              | R121 R127           |          | 5DB0180511 | 100MF/50WV               | C125                |
| 3.3 K $\Omega$ | 5R1C033241 | 3.3 K $\Omega$ ¼W              | R129                | 220 MF   | 5DB2270111 | 220MF/10WV               | C136                |
| 5.1 K $\Omega$ | 5R1C051241 | 5.1 K $\Omega$ ¼W              | R108 R118           |          | 5DB2273502 | 220MF/35WV               | C116 C122           |
| 6.8 K $\Omega$ | 5R1C068241 | 6.8 K $\Omega$ ¼W              | R107 R117           | 1000 MF  | 5DB0193501 | 1000MF/35WV              | C129                |
| 10 K $\Omega$  | 5R1C001441 | 10 K $\Omega$ ¼W               | R112 R120           |          | 5DB0190511 | 1000MF/50WV              | C128 C131           |
| 22 K $\Omega$  | 5R1C022341 | 22 K $\Omega$ ¼W               | R102 R128           | 2200 MF  | 5DB2281601 | 2200MF/16WV              | C132                |
| 33 K $\Omega$  | 5R1C033341 | 33 K $\Omega$ ¼W               | R113                |          |            |                          |                     |
| 51 K $\Omega$  | 5R1C051341 | 51 K $\Omega$ ¼W               | R130                |          |            |                          |                     |
| 62 K $\Omega$  | 5R1C062341 | 62 K $\Omega$ ¼W               | R110                |          |            |                          |                     |
| 100 K $\Omega$ | 5R1C001541 | 100 K $\Omega$ ¼W              | R104 R115 R119 R123 |          |            |                          |                     |
| 330 K $\Omega$ | 5R1C033441 | 330 K $\Omega$ ¼W              | R105 R116           |          |            |                          |                     |

\* Metal film R. .... Metal film fixed resistor    \* C film fix R. .... Carbon film fixed resistor    \* con. .... condenser    \* Polyest ..... Polyester    \* Al elect ..... Aluminum electrolytic



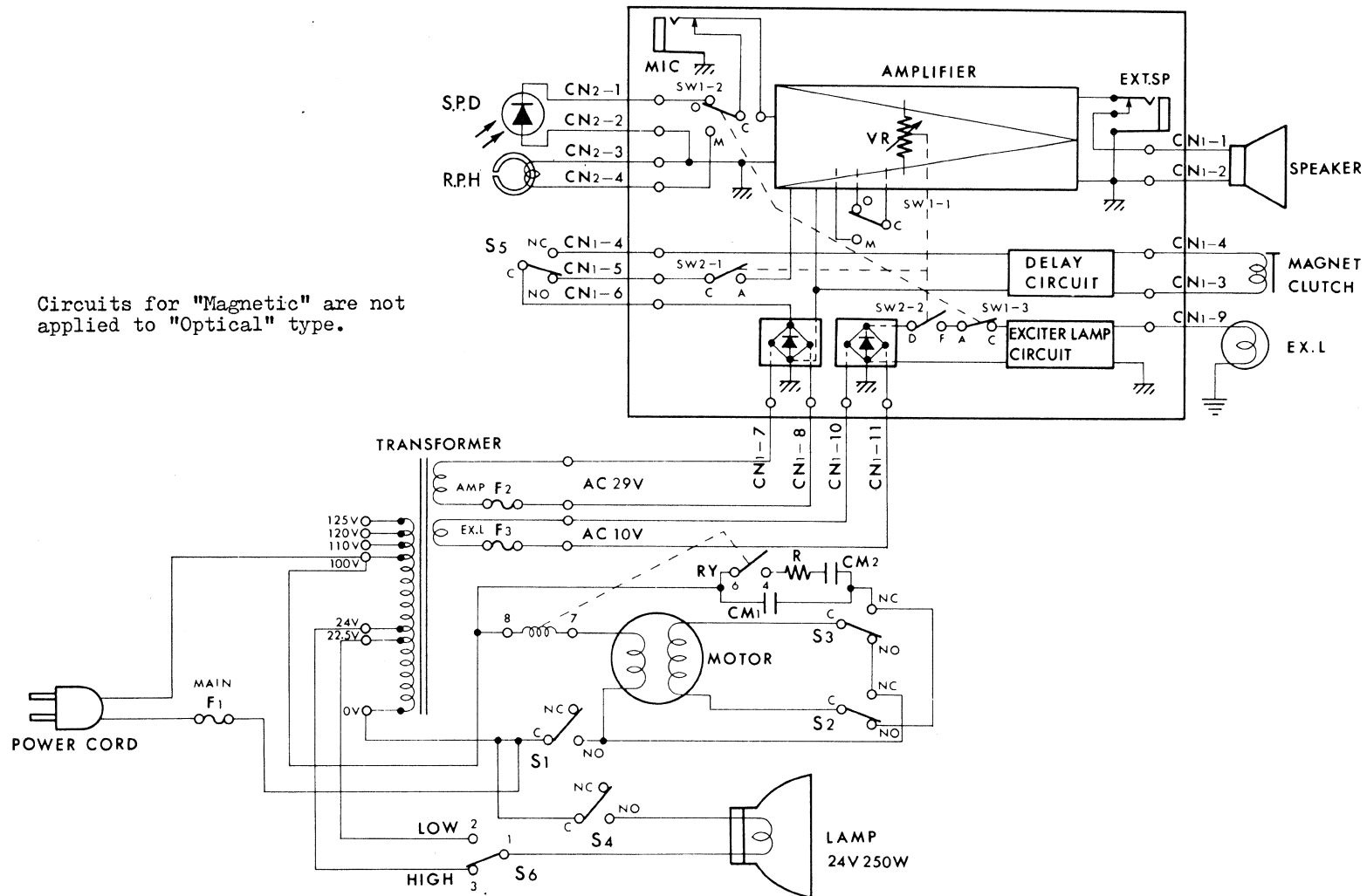


# ELECTRIC PARTS LIST

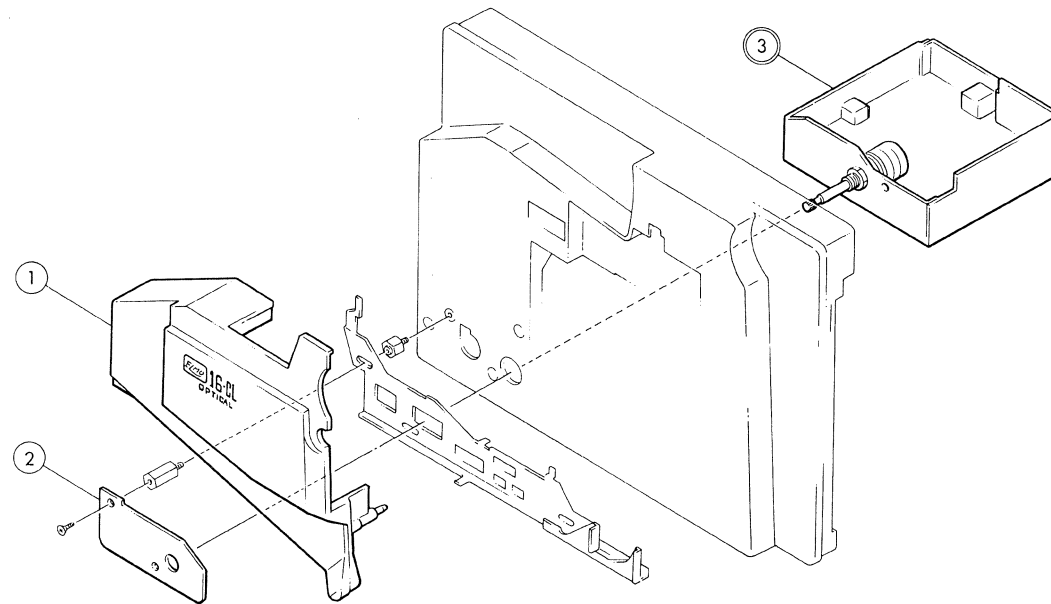
E30983

| Item           | Parts No.  | Parts Name                     | Circuit Diagram No. | Item          | Parts No.  | Parts Name                     | Circuit Diagram No. |
|----------------|------------|--------------------------------|---------------------|---------------|------------|--------------------------------|---------------------|
| IC             | 5ALD3115   | IC (LD3115)                    | IC1                 | 200K $\Omega$ | 5R1C002541 | C film fix R. 200K $\Omega$ ¼W | R5                  |
|                | 5ALD3141   | (LD3141)                       | IC2                 |               |            |                                |                     |
|                | 5ATA7210P  | (TA7210P)                      | IC3                 | 30PF          | 5DQ0310511 | Ceramic con. 30PF/50WV         | C20                 |
| Tr             | 5S12SC945  | Transistor (2SC945)            | Tr1                 | 47PF          | 5DQ4700511 | 47PF/50WV                      | C6                  |
|                | 5S12SC1098 | (2SC1098)                      | Tr2                 | 500PF         | 5DQ0520511 | 500PF/50WV                     | C1                  |
| D              | 5S2RD62E   | Zener diode (RD6.2E)           | D1                  | 1000PF        | 5DJ0130511 | Polyest film 1000PF/50WV       | C9 C23              |
|                | 5S2SR1K2   | Si diode (SR1K-2)              | D2                  | 2000PF        | 5DJ0230511 | 2000PF/50WV                    | C2                  |
| REC            | 5S2S1RBA20 | Si rectifier (S1RBA20)         | REC 1 REC2          | 4700PF        | 5DJ4720511 | 4700PF/50WV                    | C8                  |
| VR             | 5R4Z0014A1 | VR 10K A-type+10K B-type       | VR                  | 6800PF        | 5DJ6820511 | 6800PF/50WV                    | C26                 |
|                |            |                                |                     | 0.01MF        | 5DJ0140511 | 0.01MF/50WV                    | C11                 |
| 0.47 $\Omega$  | 5R5B047K71 | Metal film R. 0.47 $\Omega$ 2W | R16                 | 0.022MF       | 5DJ2230511 | 0.022MF/50WV                   | C14                 |
| 1.5 $\Omega$   | 5R1C015J41 | C film fix R. 1.5 $\Omega$ ¼W  | R17                 | 0.033MF       | 5DJ3330511 | 0.033MF/50WV                   | C12 C13             |
| 5.1 $\Omega$   | 5R2B051J81 | Cement R. 5.1 $\Omega$ 5W      | R23 R24             | 0.1 MF        | 5DJ0150514 | 0.1MF/50WV                     | C25                 |
| 22 $\Omega$    | 5R1C022042 | C film fix R. 22 $\Omega$ ¼W   | R15                 | 0.15MF        | 5DJ1540511 | 0.15MF/50WV                    | C27                 |
| 100 $\Omega$   | 5R5B001271 | Metal film R. 100 $\Omega$ 2W  | R25                 | 1MF           | 5DB0163501 | Al elect con. 1MF/35WV         | C10 C19             |
| 560 $\Omega$   | 5R5B056171 | 560 $\Omega$ 2W                | R22                 | 4.7MF         | 5DB4753502 | 4.7MF/35WV                     | C21                 |
| 1 K $\Omega$   | 5R5B001371 | 1K $\Omega$ 2W                 | R26                 | 10MF          | 5DG0170111 | Ta solid con.10MF/10WV         | C3                  |
|                | 5R1C001341 | C film fix R. 1K $\Omega$ ¼W   | R18                 | 47MF          | 5DB4760111 | Al elect con.47MF/10WV         | C7                  |
| 1.5 K $\Omega$ | 5R1C015241 | 1.5K $\Omega$ ¼W               | R14                 | 100MF         | 5DB01863J1 | 100MF/6.3WV                    | C15 C16             |
| 1.8 K $\Omega$ | 5R5B018261 | Metal film R. 1.8K $\Omega$ 1W | R9                  |               | 5DB0182501 | 100MF/25WV                     | C4 C5 C17 C18       |
| 2 K $\Omega$   | 5R1C002341 | C film fix R. 2K $\Omega$ ¼W   | R1                  |               | 5DB0180511 | 100MF/50WV                     | C24                 |
| 3 K $\Omega$   | 5R1C003341 | 3K $\Omega$ ¼W                 | R19                 | 220MF         | 5DB2270111 | 220MF/10WV                     | C29                 |
| 5.6 K $\Omega$ | 5R1C056241 | 5.6K $\Omega$ ¼W               | R10                 |               | 5DB2272501 | 220MF/25WV                     | C22                 |
| 10 K $\Omega$  | 5R1C001441 | 10K $\Omega$ ¼W                | R6 R7 R12           | 1000MF        | 5DB0193501 | 1000MF/35WV                    | C28                 |
| 12 K $\Omega$  | 5R1C012342 | 12K $\Omega$ ¼W                | R3                  |               | 5DB0190511 | 1000MF/50WV                    | C30 C33             |
| 18K $\Omega$   | 5R1C018342 | 18K $\Omega$ ¼W                | R4                  | 3300MF        | 5DB3380111 | 3300MF/10WV                    | C32                 |
| 27K $\Omega$   | 5R1C027341 | 27K $\Omega$ ¼W                | R20                 |               | 5DB3381601 | 3300MF/16WV                    | C31                 |
| 50K $\Omega$   | 5R1C005441 | 50K $\Omega$ ¼W                | R21                 |               |            |                                |                     |
| 51K $\Omega$   | 5R1C051341 | 51K $\Omega$ ¼W                | R8                  |               |            |                                |                     |
| 100K $\Omega$  | 5R1C001541 | 100K $\Omega$ ¼W               | R2 R11 R13          |               |            |                                |                     |

\*Metal film R. .... Metal film fixed resistor \* C film fix R. .... Carbon film fixed resistor \*con. .... condenser \* Polyest .... Polyester \* Al elect .... Aluminum electrolytic \*Ta .... Tantalum



SCHEMATIC DIAGRAM FOR MACHINE FOR ELMO 16-CL (M-O & O) E31007



| Illustration No. | Parts No. | Parts Name |                | Common Use Model | Illustration No. | Parts No. | Parts Name |  | Common Use Model |
|------------------|-----------|------------|----------------|------------------|------------------|-----------|------------|--|------------------|
| 1                | 4P10326   | 前カバー(6)    | Front cover 6  |                  |                  |           |            |  |                  |
| 2                | 4N03245   | 銘板 0       | Plate 0        |                  |                  |           |            |  |                  |
| 3                | 4P8CL0125 | アンプ組立品 0   | Amplifier assy |                  |                  |           |            |  |                  |
|                  |           |            |                |                  |                  |           |            |  |                  |
|                  |           |            |                |                  |                  |           |            |  |                  |
|                  |           |            |                |                  |                  |           |            |  |                  |
|                  |           |            |                |                  |                  |           |            |  |                  |
|                  |           |            |                |                  |                  |           |            |  |                  |
|                  |           |            |                |                  |                  |           |            |  |                  |

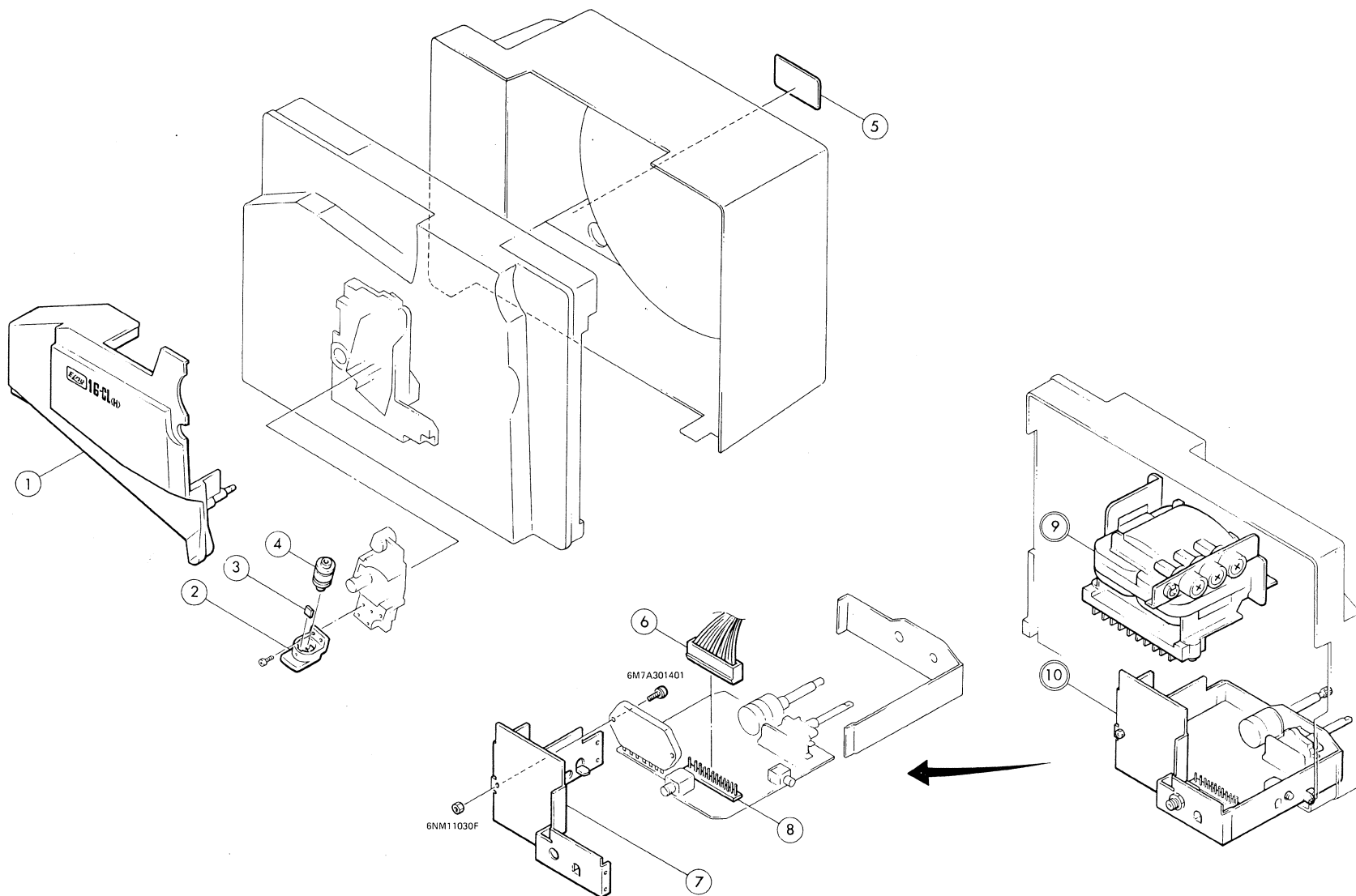
## EXPORT TYPE

| Item No. | Page and Illustration No. | Parts No. | Parts Name     | Remarks                 | Item No. | Page and Illustration No. | Parts No. | Parts Name | Remarks |
|----------|---------------------------|-----------|----------------|-------------------------|----------|---------------------------|-----------|------------|---------|
| 4        | 16 - 3                    | 4P8CL0126 | Amplifier assy | ELMO (Europe) Territory |          |                           |           |            |         |
| 5        |                           | 4P8CL0127 |                | France                  |          |                           |           |            |         |
| 6        |                           | 4P8CL0125 |                | Others                  |          |                           |           |            |         |
|          |                           |           |                |                         |          |                           |           |            |         |

## PREVIOUS PART

— which are not interchangeable —

| Item No. | Page and Illustration No. | Parts No. | Parts Name                   |                                                                            | Item No. | Page and Illustration No. | Parts No. | Parts Name |  |
|----------|---------------------------|-----------|------------------------------|----------------------------------------------------------------------------|----------|---------------------------|-----------|------------|--|
| 7        | 16 - 3                    | 4P8CL0011 | 組立アンプ(2)                     | Amplifier(2) assy                                                          |          |                           |           |            |  |
| 8        | 16 -                      | 4P20582   | 前カバー(5)<br>(旧機の前カバー(6)下部に使用) | Front cover 5<br>(attached to the bottom of<br>Front Cover 6 of old model) |          |                           |           |            |  |
|          |                           |           |                              |                                                                            |          |                           |           |            |  |





SCHEMATIC DIAGRAM FOR AMPLIFIER FOR ELMO 16-CL (H) E31485

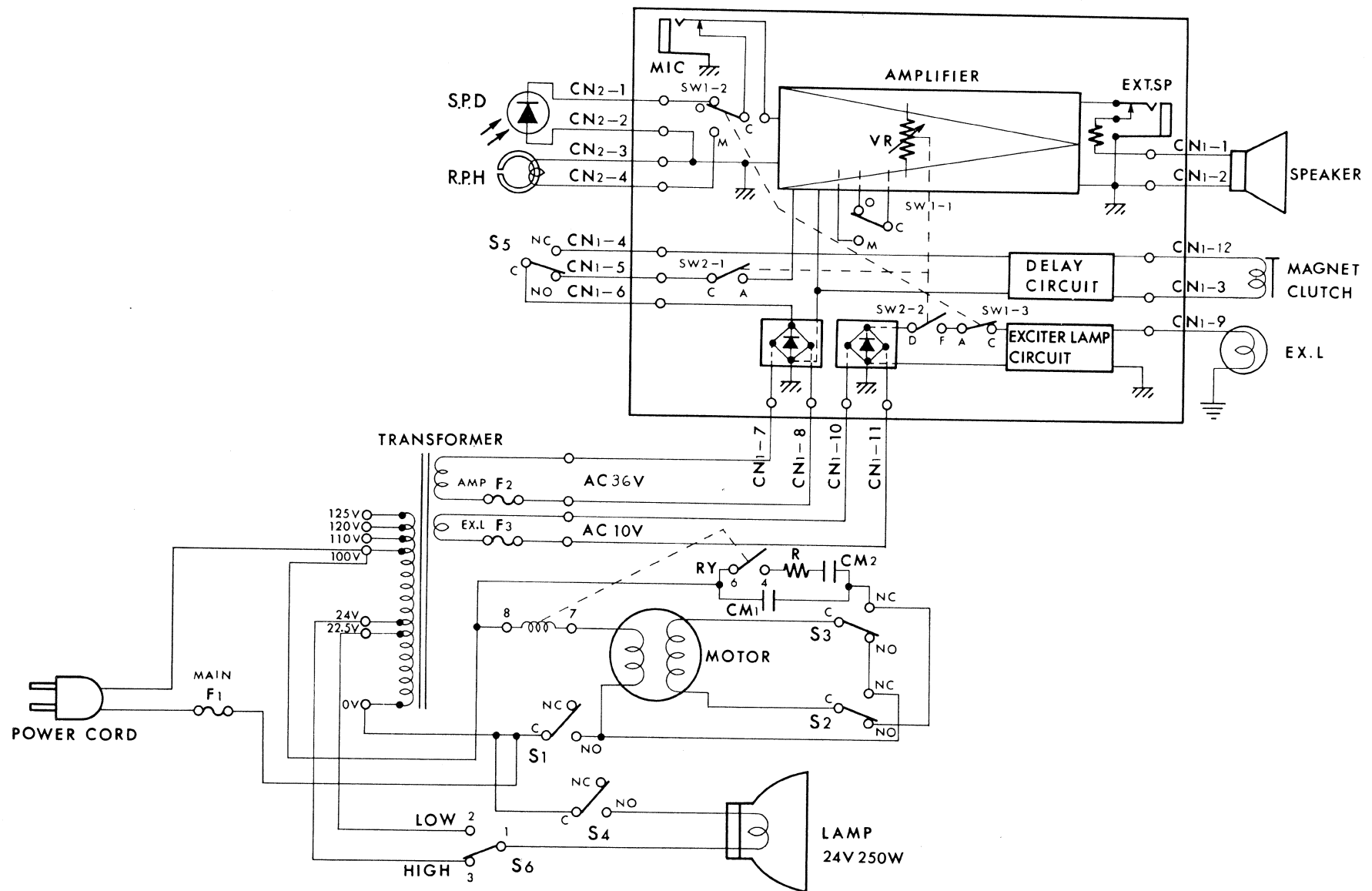


# ELECTRIC PARTS LIST

E31485

| Item          | Parts No.  | Parts Name                    | Circuit Diagram No. | Item          | Parts No.  | Parts Name                     | Circuit Diagram No. |
|---------------|------------|-------------------------------|---------------------|---------------|------------|--------------------------------|---------------------|
| IC            | 5ATA7139P  | IC (TA7139P)                  | IC1 IC2             | 100K $\Omega$ | 5R1C001541 | C film fix R. 100K $\Omega$ ¼W | R104 R115           |
|               | 5ASTK024   | (STK024)                      | IC3                 | 330K $\Omega$ | 5R1C003441 | 330K $\Omega$ ¼W               | R105 R116           |
|               | 5ATA78005P | (TA78005P)                    | IC4                 |               |            |                                |                     |
| Tr            | 5S12SC945  | Transistor (2SC945)           | Tr1                 | 47PF          | 5DQ4700511 | Ceramic con. 47PF/50WV         | C108 C117           |
|               | 5S12SC1098 | (2SC1098)                     | Tr2                 | 100PF         | 5DQ0120511 | 100PF/50WV                     | C105                |
| D             | 5S2RD62E   | Zener diode (RD6.2E)          | D101                | 220PF         | 5DQ2210511 | 220PF/50WV                     | C115                |
|               | 5S2SR1K2   | Si diode (SR1K-2)             | D102                | 470PF         | 5DQ4710511 | 470PF/50WV                     | C103 C113           |
| REC           | 5S2S1RBA20 | Si rectifier (S1RBA20)        | REC101 REC102       | 1000PF        | 5DQ0130511 | 1000PF/50WV                    | C133                |
| VR            | 5R4Z0014A1 | VR10K A-type+10K B-type       | VR                  | 0.01MF        | 5DJ0140511 | Polyest film 0.01MF/50WV       | C111                |
|               |            |                               |                     | 0.015MF       | 5DJ1530511 | 0.015MF/50WV                   | C127                |
| 1.3 $\Omega$  | 5R5B013J71 | Metal film R. 1.3 $\Omega$ 2W | R128                | 0.033MF       | 5DJ3330511 | 0.033MF/50WV                   | C110                |
| 2.7 $\Omega$  | 5R2B027J81 | Cement R. 2.7 $\Omega$ 5W     | R121                | 0.047MF       | 5DJ4730511 | 0.047MF/50WV                   | C124                |
| 4.7 $\Omega$  | 5R1C047J41 | C film fix R. 4.7 $\Omega$ ¼W | R120                | 0.1MF         | 5DJ0150514 | 0.1MF/50WV                     | C106 C129 C130      |
| 75 $\Omega$   | 5R2B007571 | Cement R. 75 $\Omega$ 3W      | R126                | 0.15MF        | 5DJ1540511 | 0.15MF/50WV                    | C134                |
| 82 $\Omega$   | 5R1B082041 | C film fix R. 82 $\Omega$ ¼W  | R119                | 0.33MF        | 5DB3340511 | Al elect con. 0.33MF/50WV      | C119                |
| 180 $\Omega$  | 5R1C018141 | 180 $\Omega$ ¼W               | R106                | 3.3MF         | 5DB3350512 | 3.3MF/50WV                     | C102 C109 C118      |
| 680 $\Omega$  | 5R5B068171 | Metal film R. 680 $\Omega$ 2W | R125                | 4.7MF         | 5DB4753502 | 4.7MF/35WV                     | C104 C112           |
| 1 K $\Omega$  | 5R1C001341 | C film fix R. 1K $\Omega$ ¼W  | R103                | 10MF          | 5DB0170112 | 10MF/10WV                      | C131                |
| 1.8K $\Omega$ | 5R1C018241 | 1.8K $\Omega$ ¼W              | R109                | 22MF          | 5DB22663J1 | 22MF/6.3WV                     | C114                |
| 2.2K $\Omega$ | 5R1C022241 | 2.2K $\Omega$ ¼W              | R101 R114 R122      | 47MF          | 5DB4762501 | 47MF/25WV                      | C122                |
| 3.3K $\Omega$ | 5R1C033241 | 3.3K $\Omega$ ¼W              | R123                |               | 5DB4763501 | 47MF/35WV                      | C125                |
| 5.1K $\Omega$ | 5R1C051241 | 5.1K $\Omega$ ¼W              | R108                | 100MF         | 5DB0183502 | 100MF/35WV                     | C121                |
| 6.8K $\Omega$ | 5R1C068241 | 6.8K $\Omega$ ¼W              | R107 R117           |               | 5DB0180511 | 100MF/50WV                     | C120                |
| 10K $\Omega$  | 5R1C001441 | 10K $\Omega$ ¼W               | R112                | 220MF         | 5DB2270111 | 220MF/10WV                     | C132                |
| 18K $\Omega$  | 5R1C018341 | 18K $\Omega$ ¼W               | R111 R118           |               | 5DB2273502 | 220MF/35WV                     | C101 C106 C123      |
| 22K $\Omega$  | 5R1C022341 | 22K $\Omega$ ¼W               | R102                | 1000MF        | 5DB0193501 | 1000MF/35WV                    | C126                |
| 27K $\Omega$  | 5R1B027341 | 27K $\Omega$ ¼W               | R127                | 2200MF        | 5DB2281601 | 2200MF/16WV                    | C128                |
| 33K $\Omega$  | 5R1C033341 | 33K $\Omega$ ¼W               | R113                |               | 5DB2286302 | 2200MF/63WV                    | C127                |
| 47K $\Omega$  | 5R1C047341 | 47K $\Omega$ ¼W               | R110                |               |            |                                |                     |
| 51K $\Omega$  | 5R1C051341 | 51K $\Omega$ ¼W               | R124                |               |            |                                |                     |

\*Metal film R. .... Metal film fixed resistor \*C film fix R. .... Carbon film fixed resistor \*con. .... condenser \*Polyest...Polyester \*Al elect .... Aluminum electrolytic



SCHEMATIC DIAGRAM FOR MACHINE FOR ELMO 16-CL (H) E31481

# PARTS NUMBER INDEX

| Parts No. | Parts Name        |                          | Page and Illustration No. | Parts No. | Parts Name       |                          | Page and Illustration No. |
|-----------|-------------------|--------------------------|---------------------------|-----------|------------------|--------------------------|---------------------------|
| P410153   | ナット ホルダ フライホイ     | Flywheel holder nut      | 12 - 19                   | P412092   | 端子押 エ エキサイタランプ   | Terminal exciter lamp    | 12 - 13                   |
| P410245   | ホルダ スピーカブラグ       | Holder speaker plug      | 11 - 91                   | P412092B  | 端子押 エ エキサイタランプ   | Terminal exciter lamp    | 4 - 36                    |
| P410661   | 制動バネ 中間ギヤ         | Middle gear brake spring | 6 - 8                     | P412093   | 組立レバー ヘッド        | Lever head assy          | 12 - 12                   |
| P411298   | フェルト              | Oil cloth 1              | 6 - 23                    | P412093B  | 組立レバー ヘッド        | Lever head assy          | 4 - 30                    |
| P411317B  | 面カム               | Face cam                 | 6 - 12                    | P412095   | ネジ ヘッド           | Screw head               | 12 - 10                   |
| P411318B  | 三角カム              | Triangle cam             | 6 - 13                    | P412095B  | ネジ ヘッド           | Screw head               | 4 - 22                    |
| P411319B  | 軸 送り爪(1)支点        | Fulcrum shaft claw       | 6 - 7                     | P412096   | 取付板 ヘッド          | Holder head              | 12 - 11                   |
| P411322   | ワッシャ 送り爪軸         | Washer claw shaft        | 6 - 10                    | P412097   | ホルダ(1) フォトダイオード  | Holder(1) photo diode    | 4 - 21                    |
| P411323   | ピン 送り爪            | Claw pin                 | 6 - 16                    | P412098   | ホルダ(2) フォトダイオード  | Holder(2) photo diode    | 4 - 8                     |
| P411325   | 送り爪 枠             | Slide plate claw         | 6 - 22                    | P412099   | カバー フォトダイオード     | Cover photo diode        | 4 - 9                     |
| P411326   | バネ 送り爪枠           | Spring slide plate claw  | 6 - 20                    | P412100   | 軸(1) ホルダエキサイタランプ | Shaft(1) exciter lamp    | 4 - 12                    |
| P411327B  | バネ 送り爪            | Spring claw              | 6 - 26                    | P412101   | 軸(2) ホルダエキサイタランプ | Shaft(2) exciter lamp    | 4 - 42                    |
| P411328   | ベアリング ホルダ         | Bearing holder           | 6 - 31                    | P412103   | 押エ板 ボールベアリング     | Pressing plate bearing   | 4 - 2                     |
| P411335C  | 組立三角カム軸           | Triangle cam shaft assy  | 6 - 11                    | P412104   | レバー(1) M-O 切換    | Lever(1) M-O switch      | 12 - 9                    |
| P411507   | 固定バネ 油含ミ          | Fix spring oil cloth     | 6 - 24                    | P412104B  | レバー(1) M-O 切換    | Lever(1) M-O switch      | 4 - 14                    |
| P411613   | ホルダ(3) モータ        | Holder(3) motor          | 9 - 3                     | P412106   | 軸 プレッシュローラ       | Shaft pressure roller    | 3-30 4-52<br>12-14        |
| P411686   | ユニバーサルジョイント       | Universal joint          | 8 - 1                     | P412107   | 組立軸 フライホイ        | Shaft flywheel assy      | 4 - 1                     |
| P412043   | フェルト 支点送り爪        | Felt fulcrum claw        | 6 - 9                     | P412108   | 軸 制動ローラ(1)       | Shaft brake roller 1     | 12 - 18                   |
| P412049C  | レバー 制動ローラ(2)      | Lever brake roller 2     | 4 - 56                    | P412112   | 組立制動ローラ(2)       | Brake roller(2) assy     | 3-31 4-51                 |
| P412050   | ホルダ エキサイタランプ      | Holder exciter lamp      | 12 - 8                    | P412114   | 組立パッドローラ         | Pad roller assy          | 3-32 4-41                 |
| P412050B  | ホルダ エキサイタランプ      | Holder exciter lamp      | 4 - 10                    | P412123   | ホルダ(1) スイッチカム    | Holder(1) switch cam     | 5 - 34                    |
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| 5E1072     | マイクロスイッチ AH715089        | Micro switch (AH715089)   | 5-35 11-41                | 5N204122   | 4P-PCボード用コネクタ S-I 2502   | 4-P connector (S-I2502)    | 9 - 31                    |
| 5E6009     | 波動スイッチ WD31019           | Seesaw switch (WD31019)   | 8-9 11-58                 | 5N211021   | 11Pフラットウエハ 5275-11A      | 11-P connector (5275-11A)  | 9 - 37                    |
| 5E6011     | 波動スイッチ 1603・3101         | Seesaw switch (1603・3101) | 11 - 57                   | 5N212121   | 12Pウエハアッセンブリ 5275-12A    | 12-P connector (5275-12A)  | 17 - 8                    |
| 5E6023     | 波動スイッチ 1802・0121         | Main switch (1802・0121)   | 10 - 33                   | 5N50102    | プリントジャック XG 8010         | Jack 3.5mm (XG-8010)       | 12 - 31                   |
| 5E7022     | 電動リレー LY2F-EM            | Relay (LY2F-EM)           | 7-33 11-56                | 5N50352    | 6.34 mm ジャック SG 7622-01  | Jack 6.34mm (SG7622-01)    | 9-36 11-98                |
| 5E7041     | 電動リレー LY2F-EM1           | Relay (LY2F-EM1)          | 11 - 55                   | 5N50392    | 3.5 mm M-7 ジャック X-G 8017 | Jack 3.5mm (M-7XG8017)     | 9 - 38                    |
| 5E9008     | E形ロータリスイッチ ESR-E182F50BP | Rotary switch             | 9 - 40                    | 5R2B005061 | 巻線抵抗 5Ω 1W               | Wire wound R. 5Ω 1W        | 7 - 31                    |
| 5E9026     | サーモプロテクタ 9700L-21-11 VDE | Thermostat (9700L-21-11)  | 10 - 13                   | 5R4Z0014A1 | 可変抵抗 10KΩ A型 & 10KΩ B型   | VR 10K A-type+10K B-type   | 9 - 32                    |
| 5G5005     | ストレインリリーフブッシング SR-5P-4   | Cord bush (SR-5P)         | 8 - 10                    | 5S4PD520UA | 光電素子 PD-520 UA           | Photo diode (PD-520UA)     | 4 - 7                     |
| 5G5038     | スナップブッシング SB-375-3       | Cord bush (SB-375-3)      | 3-44 11-37                | 5V1024     | スピーカ 12I60CP-S00857      | Speaker (12I60CP-S00857)   | 9 - 19                    |
| 5G5042     | スナップブッシング SB-375-4       | Cord bush (SB-375-4)      | 10-16 11-36               | 5V2016     | モータ 2KC-40 CL            | Motor (2KC- 40CL)          | 9-15 11-90                |
| 5H1016001  | ミゼットヒューズ 5×20 1.6A (T)   | Midget fuse (1.6A)        | 10 - 27                   | 5V2017     | モータ 2KC-40 C1L           | Motor (2KC-40C1L)          | 11 - 88                   |
| 5H1020001  | ミゼットヒューズ 2A NO.7142      | Midget fuse (2ANO.7142)   | 11 - 73                   | 5V2018     | モータ 2KC-40 CWL           | Motor (2KC- 40CWL)         | 11 - 89                   |
| 5H1020005  | ヒューズ 2A                  | Fuse (2A) (6×30)          | 8-13 11-70                | 6B00400702 | ラジアル玉軸受 4×7×2            | B.-bearing (SSL-740) 4-7   | 5 - 46                    |
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| 5H1050001  | ミゼットヒューズ 5A              | Midget fuse (5A)          | 11 - 78                   | 6B20601902 | ラジアル玉軸受 6×19×6・PO        | B.-bearing (626-2NK) 6-19  | 6 - 25                    |
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| 5H1050003  | ヒューズ 5A                  | Fuse (5A) (UL)            | 11 - 77                   | 6FM3050125 | 六角穴付ボルト M5×12            | Hexagon hole bolt M5×12    | 9 - 28                    |
| 5H2015     | ヒューズホルダ S-N 2250         | Fuse holder (S-N2250)     | 11 - 69                   | 6VV3M375   | Vベルト メイン 3M375           | V belt main (3M375)        | 9 - 17                    |
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| 5J20005    | キャンセルコイル HCR-004         | Cancel coil               | 4 - 16                    | 6Z00502    | ジュラコンキャッチ C131 メス        | Catch (C-131-2)            | 2 - 12                    |
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