

# COMPREHENSIVE MANUAL OPERATION • REPAIR • PARTS LIST



FOR  
LAFAYETTE ANALYZER PROJECTORS

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## **CAUTION!!!**

THIS INSTRUMENT IS EQUIPPED WITH A 3-WIRE POWER CORD AND A 3-PRONG POLARIZED PLUG FOR DIRECT CONNECTION TO A 105 to 125 VOLT, 60 HZ WALL RECEPTACLE OF THE GROUNDING TYPE. BY USING A SUITABLE POWER CORD ADAPTER, IT IS POSSIBLE TO PLUG INTO A CONVENTIONAL WALL RECEPTACLE. WHEN YOU DO THIS, CONNECT THE GROUNDING WIRE ATTACHED TO THE 2-PRONG ADAPTER TO A SUITABLE GROUND. FOR CONVENIENCE, IT IS SUGGESTED THAT IN THOSE LOCATIONS WHERE THE PROJECTOR WILL BE USED FREQUENTLY, THE USUAL 2-PRONG RECEPTACLE BE REPLACED WITH A 3-PRONG POLARIZED RECEPTACLE, PROPERLY GROUNDED.

IF AN EXTENSION POWER CORD IS USED, BE SURE THAT IT HAS ADEQUATE CURRENT-CARRYING CAPACITY (No. 16 AWG WIRE OR LARGER) TO AVOID OVER-HEATING THE CORD. USE AS SHORT A CORD AS POSSIBLE TO PREVENT EXCESSIVE VOLTAGE DROP.

INSTRUCTIONS FOR AAP-100, 200 & 300  
SERIES ANALYZER PROJECTORS

DESCRIPTION

The Lafayette Analyzer 16mm Projector, Models AAP-100, AAP-200, and AAP-300 feature complete stop motion, frame-by-frame flicker free automatic advance, variable calibrated frame rate control from 1 to 8 frames per second\*, instant start-stop, forward and reverse and all operations are remote controlled.

The AAP-200 and AAP-300 have a 5-digit resettable frame counter which adds and subtracts, enabling the operator to locate any desired frame quickly and efficiently.

\*Note: AAP-300 calibrated Fps, are 1, 2, 4, 6, 8, 12, 16 and 24.

SPECIFICATIONS

110 - 125V AC 60Hz  
1000 Watts Maximum  
55 - 105 degrees F (13 - 40 degrees C) Ambient temperatures

Height: 13 3/4 inches  
Length: 17 inches  
Width: 9 inches  
Weight: 29 pounds

PROJECTOR OPERATION SPECIFICATIONS

F 1.6 Aperture  
2 Inch focal length  
750 Watt lamp - G.E. DDB-115-120V  
400 Foot reel capacity  
54 degrees open, 66 degrees closed, 3 blade shutter

SPEEDS

Run - 16 F.P.S. Continuous - AAP-100, AAP-200 and AAP-300  
Stop - Single frame - flickerless  
Auto - 1 to 8 FPS flickerless AAP-100 & 200 (1, 2, 4, 6, 8, 12  
fps - flickerless - calibrated AAP-300)

## PREPARING THE AAP-100, 200 or 300 FOR OPERATION

The AAP-100, 200 and 300 comes packaged in a cardboard box 16 x 23 x 20. Remove the projector from the box by the handles and check for the three units that comprise the instrument, projector, control box and accessory reel. This projector is a delicate instrument and shall be handled as such. The projector may be used in two different ways:

- 1) Normal projection - Forward projection using a standing screen or a wall screen.
- 2) Rear projection - Rear projection using a rear viewing screen commercially available.

### I. Normal Projection

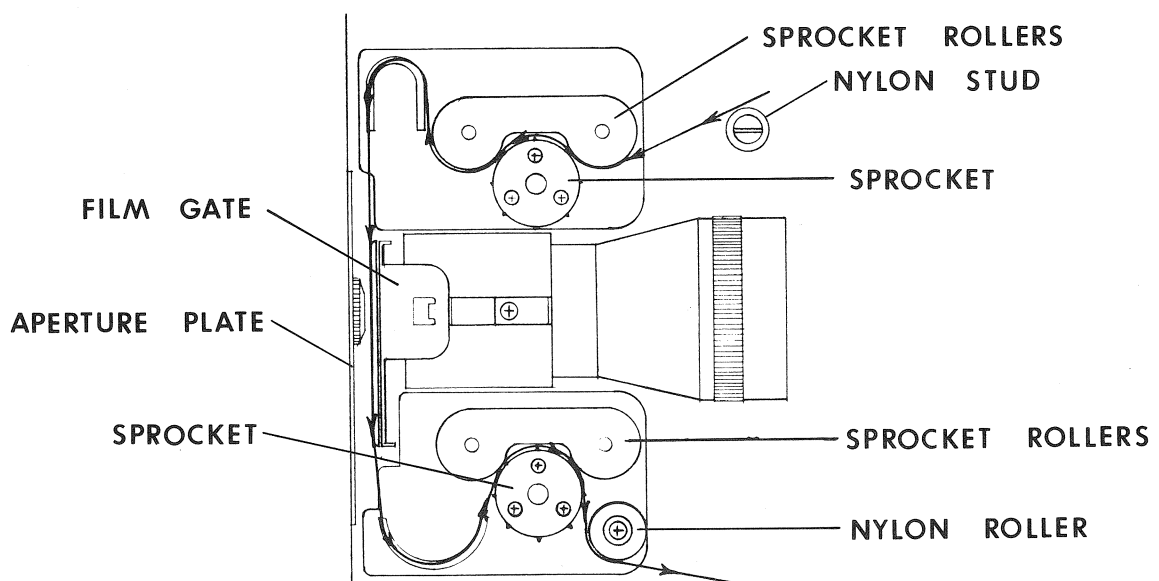
- A. Set the projector case on a flat level surface, the desired distance from the screen.
- B. Remove the front cover of the projector case. Remove the control box from its normal storage position.
- C. Remove the power and control cables from rear storage area.
- D. Plug the control box into the control cable from the projector.
- E. Warning: For proper operation the AC power at the projector will be 110V - 125V AC, 60 cycle.
- F. Thread film into projector:
  1. Extend the take-up and supply arms to their stops.
  2. Place the film reels on the spindles with the perforated edge of the film facing away from the projector.
  3. Thread the film from the supply reel directly to the take-up reel. Turn several wraps of the film lead onto the take-up reel.
  4. Thread the film into projector (Refer to threading diagram on next page).
    - a. Open film gate to the catch.

- b. Lift the sprocket pressure rollers.
- c. Thread the film over the nylon stud and between the upper sprocket and the two rollers.
- d. Secure by closing the rollers over the film.
- e. Insert the film between the film gate and aperture plate.
- f. Release the catch and close the gate over the film.
- g. Thread the film through the lower sprocket and rollers.
- h. Close the lower rollers and run the film under the nylon guide roller.

## II. Rear Projection

- A. Set the projector case on a flat level surface. See instructions of available commercial Rear Screen System for details.
- B. All other requirements are the same as those described in I-B through I-F.

### THREADING DIAGRAM



### Focus Adjustment

The adjustment is made by turning the lens barrel right or left which moves the lens in or out as needed to produce a clean sharp image on the screen. The lens is spiral grooved and is held in position with a nylon ball contained in the housing. The groove supplies the threaded adjustment.

### Height Adjustment

To raise or lower the projected image on the screen, move adjusting lever, located just below the take-up arm, counter clockwise to release the spring loaded leveling mechanism. Set to desired height and tighten lever.

### Framing Adjustment

After the projector is in operation, it may be noted that a frame (picture) bar is visible on the screen. This condition may be corrected by adjusting the knob located on the top of the projector beside the lamp cover while projector is operating in Run.

### Rewinding Film

To rewind, remove the film from the aperture and sprockets. Place the projector control in Reverse - Run mode.

To repack unit, reverse the above procedure.

## PROJECTOR OPERATION MODES

The AAP-100, 200 and 300 have three different operational modes: continuous run, manual stop motion and automatic stop motion. The projector can be operated in any of these modes by using the remote control box as described below.

1. Continuous Run
  - A. Set the Auto/Stop/Run switch at Run
  - B. Select forward or reverse motion using the FWD/REV switch.

- C. Select speed of 16 or 24 fps. using the 16/24 fps. switch
2. Manual Stop Motion
- A. Set the Auto/Stop/Run switch at Stop
  - B. Select forward or reverse motion using the FWD/REV switch
  - C. Advance film one frame at a time by depressing the Step push button.
  - D. To advance or rewind the film at a more rapid rate, depress the Run push button.
3. Automatic Stop Motion
- A. Set the Auto/Stop/Run switch at Auto
  - B. Select forward or reverse motion using the FWD/REV switch
  - C. Select speed of the automatic advance of film by turning the Auto knob to the desired rate. On the AAP-300 only, these different rates are exactly calibrated.
  - D. To override this mode for a more rapid advance or rewind of film, depress the Run push button.

In any of the three operational modes, the direction of the film can be reversed at will simply by using the FWD/REV switch. The control has a built-in safety interlock which prevents losing frames or improper operation of the projector. It is impossible to damage the projector by the manipulation of any control switches.

When the projector is ready to operate, make sure the remote control unit is plugged in (a simple but often overlooked operation).

## GENERAL MAINTENANCE INSTRUCTIONS

1. This is a precision instrument. Use and store projector in as clean an area as possible, as dirt, dust and foreign elements may damage delicate parts.
2. The AAP-100, 200 and 300 are intended for operation with line voltage of 110 to 125V AC, 60cps (Hertz) and ambient temperatures of 55 to 105 F (13 to 40 C). If operation is expected to occur outside these limits, please consult the factory.
3. All bearings are lifetime lubricated and should need no further attention. For specific problems with squeaking, refer to number 13 of the trouble shooting section.

### TOOLS NEEDED FOR THE MECHANICAL AND ELECTRICAL REPAIR OF THE AAP-100, 200 and 300

|                                                   | <u>PRICE</u> |
|---------------------------------------------------|--------------|
| 1. 20,000 OHM per volt multimeter                 | \$30.00      |
| 2. Soldering Iron                                 | 9.50         |
| 3. Solder, 1 lb. spool                            | 5.00         |
| 4. Long Nose Pliers                               | 7.50         |
| 5. Slip Joint Pliers                              | 4.75         |
| 6. Diagonal Cutters                               | 7.50         |
| 7. Phillips Screwdriver                           | 3.00         |
| 8. (2) Regular Screwdrivers                       | 4.00         |
| 9. (3) Assorted Nut Drivers                       | 5.95         |
| 10. (3) Assorted Allen Wrenches                   | 7.50         |
| 11. Steel Tool Box                                | <u>15.00</u> |
| Complete tool kit with everything<br>listed above | \$95.00      |

These are available from Lafayette Instrument either in a complete kit or as separate items for the prices listed above.

## ADJUSTMENTS FOR IMPROPER FILM TAKE-UP

### For Improper Take-Up in Reverse

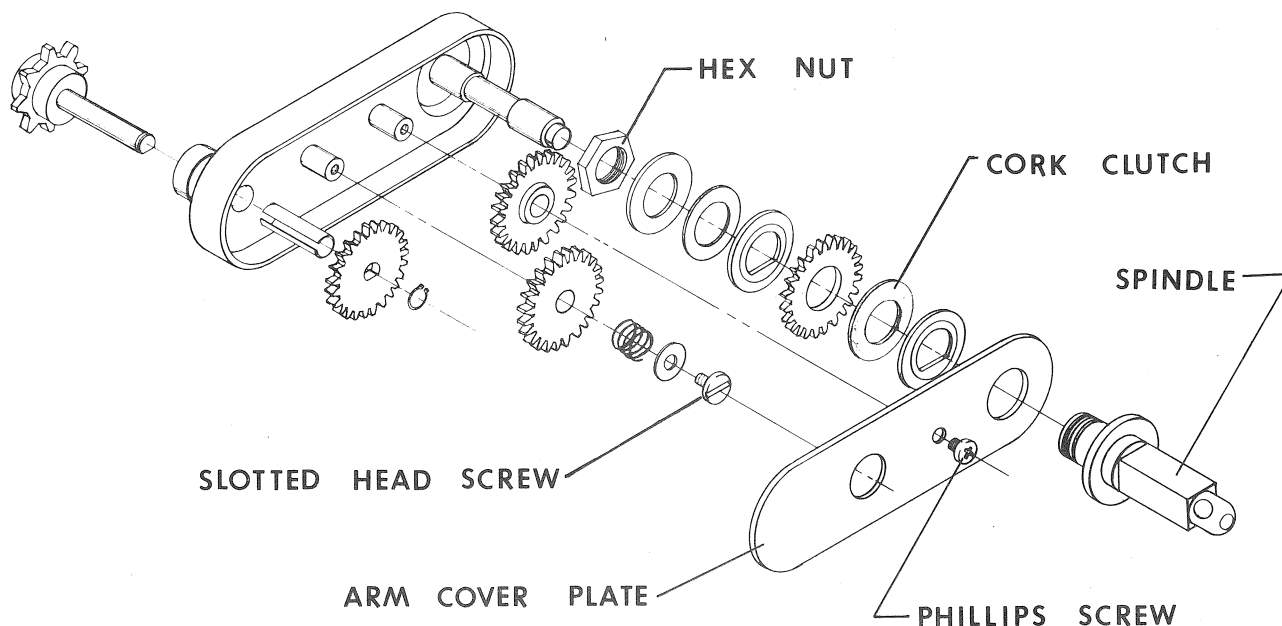
1. Remove the phillips screw only from the upper arm. Do not remove the slotted head screw.
2. Pull arm cover plate from the body of the upper arm and tighten the hex nut on the spindle slightly.
3. Replace arm cover and phillips screw and check to see if projector will take film. If not, repeat the procedure until the arm starts taking film. Be careful not to overtighten the hex nut or the cork clutch will shred.

### For Improper Take-Up in Forward Motion

1. Follow the same procedure given above to adjust the lower arm.

### For Overspill From the Upper Reel in Forward Motion

1. Tighten the slotted head screw in the upper arm slightly. Do Not Overtighten.



## TROUBLESHOOTING AND REPAIR

1. Fan motor will not run and lamp will not light.
  - A. AC Plug not connected  
Remedy: Plug in AC cord
  - B. OFF/ON toggle switches defective  
Remedy: Replace toggle switches
2. Fan motor runs and lamp lights, however, projector will not operate in any mode.
  - A. Leaf switches out of alignment  
Remedy: Align - See 9.
  - B. Framing board bad (located above blower motor).  
Remedy: Replace board
  - C. Remote control not plugged in  
Remedy: Plug in
3. Marking or bending film.
  - A. Running off sprockets  
Remedy: Refer to 4.
  - B. Pressure rollers too deep.  
Remedy: Refer to 5.
4. Film running off sprockets.
  - A. Sprocket is too far out on its shaft.  
Remedy: Loosen set screw and slide hub toward casting. (Fig. 16)
  - B. Sprocket is out of concentricity.  
Remedy: Remove hub, loosen face screws, insert a 7/32 rod into hub passing through sprocket. Carefully retighten screws. (Fig. 16)
5. Film not releasing from sprockets
  - A. Pressure rollers too tight on sprocket  
Remedy: Loosen sprocket plate assembly and adjust pressure. (Fig. 16 & 17)

- B. Sprocket alignment on hubs  
Remedy: Refer to 4.
- 6. Film burning
  - A. Cooling tube out of alignment  
Remedy: Tube end must be directly over the rear glass filter and against the casting.  
Consult factory.
  - B. No screen in front of condenser  
Remedy: Replace screen. (Fig. 15)
  - C. Back glass out of position.  
Remedy: Back glass is ground at an angle to receive the greatest possible amount of air. This must be UP - Reposition. (Fig. 19)
- 7. Runs constantly in any mode
  - A. OFF worm leaf switch not breaking  
Remedy: Set too heavy - Reset per 9. (Fig. 10)
  - B. Framing PC board bad  
Remedy: Replace board - Refer to 2.
- 8. Will not operate in stop mode
  - A. Framing PC board bad  
Remedy: Replace board - Refer to 2.
  - B. Run switch may be defective  
Remedy: Replace switch
  - C. Single frame switch may be defective  
Remedy: Replace switch
- 9. Framing incomplete in any mode
  - A. Claw too close to film line.  
Remedy: Adjust backstop screw on rear of solenoid (Fig. 5)
  - B. Film aperture plate out of alignment causing claw pins to strike slot  
Remedy: Adjust aperture plate. Move in or out, whichever the case may be (Fig. 14)

- C. OFF leaf switch set too heavy causing too much contact length affecting solenoid timing  
Remedy: Best results obtained while running film in reverse, Run mode. Set switch in normal condition so as just touching low point of cam. (Fig. 4)
- D. "O" ring clutch facing has become oiled.  
Remedy: Remove all traces of grease from both "O" ring and worm face. May be done by relieving solenoid backstop and forcing a clean cloth between "O" ring and worm and revolving drive. (Fig. 7)
- E. Claw does not contact film.  
Remedy: Turn projector ON with remote control in the Run position. Disengage the remote control while projector is running. Rotate the shutter by hand until the three set screws are horizontal and facing to the rear. Loosen the set screw nearest the shutter only, and insert the blade of a long shanked screwdriver between the nylon cam and the shutter. Twist the blade to slide the cam so that the claw extends through the gate approximately 1/32".
- If the claw is too far through the gate, place the screwdriver blade between the casting wall and the steel part of the cam. Twist the blade to recess the claw.
- F. Framing PC board bad  
Remedy: Replace board - Refer to 2.
- G. Solenoid may be defective  
Remedy: Replace solenoid. Consult factory

10. Direction of projector will not reverse

- A. FWD/REV switch defective  
Remedy: Replace switch

11. A. Aperture plate interfering with claw.  
Remedy: Align as per 9.
- B. Half framing  
Remedy: Refer to 9.

- C. Bad solenoid will allow claw to enter film but no contact between "O" ring & worm  
Remedy: Replace solenoid. Consult factory.
  - D. "O" ring drive oiled.  
Remedy: Refer to 9.
12. Take-up reel not working in Auto mode.
- A. Reel clutch too loose  
Remedy: Tighten reel spindle tension nut.
13. Squeaking
- A. "ON" leaf switch wiper dry  
Remedy: Apply very small amount of grease to driver and surface.
  - B. Claw spring dry  
Remedy: Apply grease to spring and behind claw cam roller. (Fig. 10 & 11)
  - C. Shutter bent  
Remedy: Remove lamp cover and realign. (Fig. 7)
14. Excessive noise in Auto mode
- A. Solenoid plunger traveling too far.  
Remedy: Adjust solenoid back stop while running in Auto. Do not move so far as to allow claw to strike film.
15. Motor speed varying
- A. Drive motor may be defective  
Remedy: Replace drive motor. (Fig. 6)
  - B. Drive motor brushes may be defective  
Remedy: Replace brushes (Fig. 6)
  - C. Governor brushes may be defective  
Remedy: Replace brushes (Fig. 6)
  - D. Governor may be defective  
Remedy: Clean points with a very thin file or replace governor (Fig. 6)

16. Projector overheating

A. Blower motor may be defective  
Remedy: Replace blower motor (Fig. 5)

B. Fan loose on shaft  
Remedy: Tighten fan (Fig. 5)

17. Film runs noisily through gate and binds between aperture plate and gate.

A. "Green", or new, film too tight through gate  
Remedy: Raise gate with gate adjust knob until film runs easily. (Fig. 18)

If any problems remain after trying all possible remedies, the projector should be returned to the factory for repair.

Include a reel of film and a note describing the difficulty. Pack the projector well and return via UPS (if possible) insured for its full value. If necessary call (317)423-1505.

LAFAYETTE INSTRUMENT COMPANY  
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## PROJECTOR - OPERATOR'S VIEW

| No. | Part #  | Part Name                 | Fig. | Qty. | No. | Part #  | Part Name            | Fig. | Qty. |
|-----|---------|---------------------------|------|------|-----|---------|----------------------|------|------|
| 1   |         | Case assembly             | 2    |      | 11  | 100-252 | Toggle switch        |      | 1    |
| 2   |         | Projector head assembly   | 4    |      | 12  |         | Take-up arm assembly | 13   |      |
| 3   | 100-150 | Lamphouse cover           |      | 1    | 13  |         | Supply arm assembly  | 12   |      |
| 4   | 100-101 | Lafayette Instrument spot |      | 1    | 14  | 100-132 | Rubber Grommet       |      | 3    |
| 5   | 100-151 | Lamphouse cover screw     |      | 1    | 15  | 100-153 | Sleeve               |      | 3    |
| 6   | 100-118 | Control plate             |      | 1    | 16  | 100-314 | 6-32 x 1/2 screw     |      | 3    |
| 7   | 100-250 | Toggle switch             |      | 1    | 17  |         | Front lid assembly   | 2    |      |
| 8   | 100-250 | Toggle switch             |      | 1    | 18  | 100-237 | Projection lens      |      | 1    |
| 9   | 100-251 | Socket                    |      | 1    |     |         |                      |      |      |
| 10  | 100-052 | Speed control plate       |      | 1    |     |         |                      |      |      |
|     | or      |                           |      |      |     |         |                      |      |      |
|     | 200-001 |                           |      |      |     |         |                      |      |      |

# PROJECTOR - OPERATOR'S VIEW

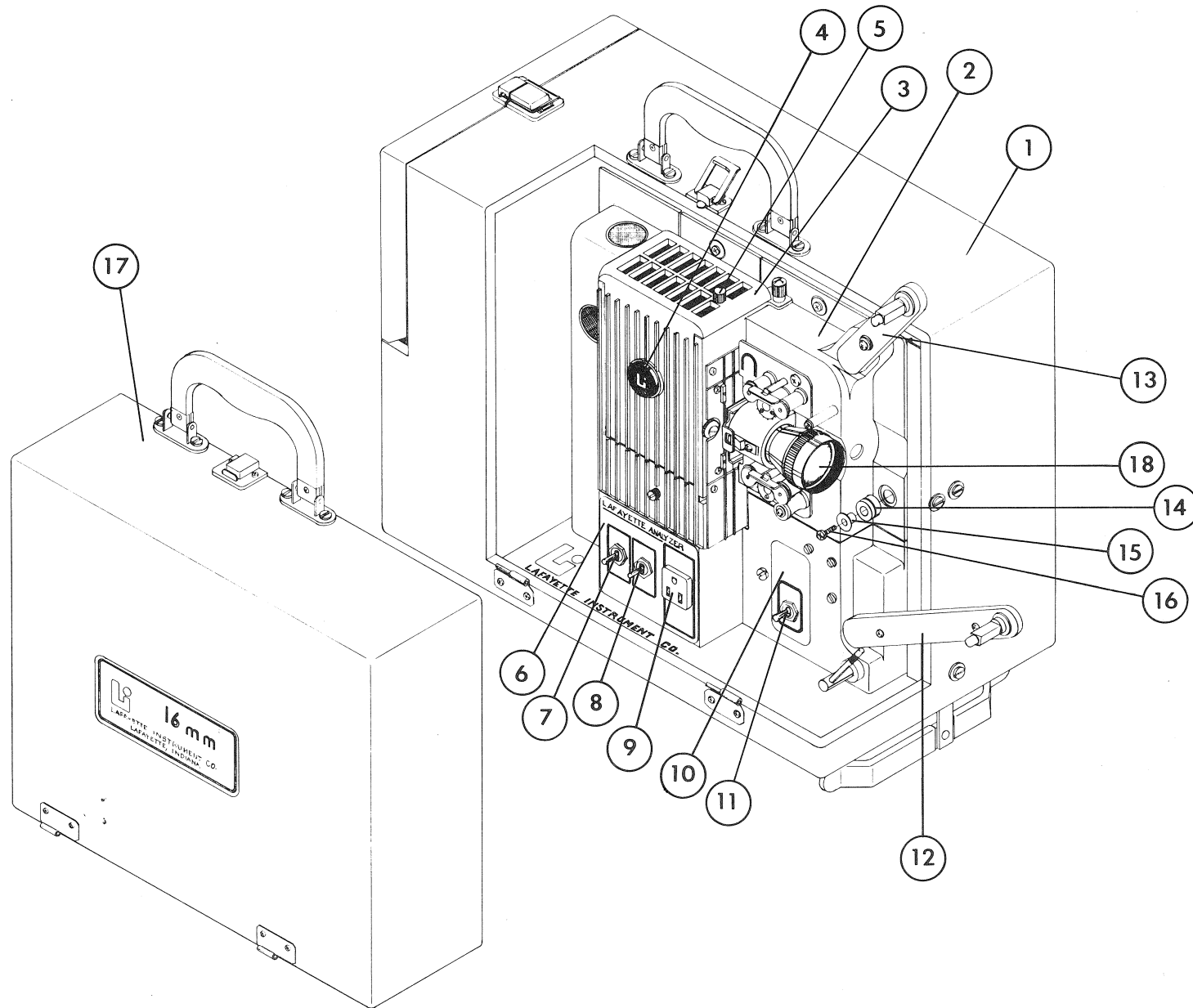


FIGURE 1

## CASE ASSEMBLY

| No. | Part #   | Part Name                    | Fig. | Qty. | No. | Part #   | Part Name                             | Fig. | Qty. |
|-----|----------|------------------------------|------|------|-----|----------|---------------------------------------|------|------|
| 1   | 100-074  | Main case                    |      | 1    | 16  | 100-255  | Latch - two pieces                    |      | 2    |
| 2   | 100-356  | #6 x 1/2 x 1/32 washer       |      | 5    | 17  | 100-334  | #4 x 3/8 wood screw                   |      | 8    |
| 3   | 100-316  | 6-32 x 3/4 binder head screw |      | 5    | 18  | 100-333  | #4 x 1/4 wood screw                   |      | 4    |
| 4   | 100-366  | 3/8 x 7/8 x 1/32 washer      |      | 1    | 19  | 100-334  | #4 x 3/8 wood screw                   |      | 6    |
| 5   |          | Elevation assembly           | 3    |      | 20  | 100-088  | Strap hinge                           |      | 1    |
| 6   | 100-054  | Bottom information panel     |      | 1    | 21  | 100-333  | #4 x 1/4 wood screw                   |      | 4    |
| 7   | 100-362  | 3/16 x 3/4 x 1/32 washer     |      | 1    | 22  | 100-074B | Storage compartment lid               |      | 1    |
| 8   | 100-133  | Rubber grommet               |      | 2    | 23  | 100-071  | Storage compartment information plate |      | 1    |
| 9   | 100-324  | 8-32 x 1/4 binder head screw |      | 1    | 24  | 100-111  | Back panel                            |      | 1    |
| 10  | 100-335  | 6 x 5/8 wood screw           |      | 2    | 25  | 100-256  | Handle - two piece                    |      | 1    |
| 11  | 100-253  | Rubber foot                  |      | 2    | 26  | 100-084  | Top mounting bracket                  |      | 1    |
| 12  | 100-334  | #4 x 3/8 wood screw          |      | 8    | 27  | 100-315  | 6-32 x 5/8 binder head screw          |      | 8    |
| 13  | 100-254  | Hinge - two pieces           |      | 2    | 28  | 100-368  | 6-32 Kepnut                           |      | 8    |
| 14  | 100-055  | Emblem plate                 |      | 1    | 29  | 100-333  | 4 x 1/4 wood screw                    |      | 6    |
| 15  | 100-074A | Front lid                    |      | 1    | 30  | 100-077  | Back cover                            |      | 1    |

# CASE ASSEMBLY

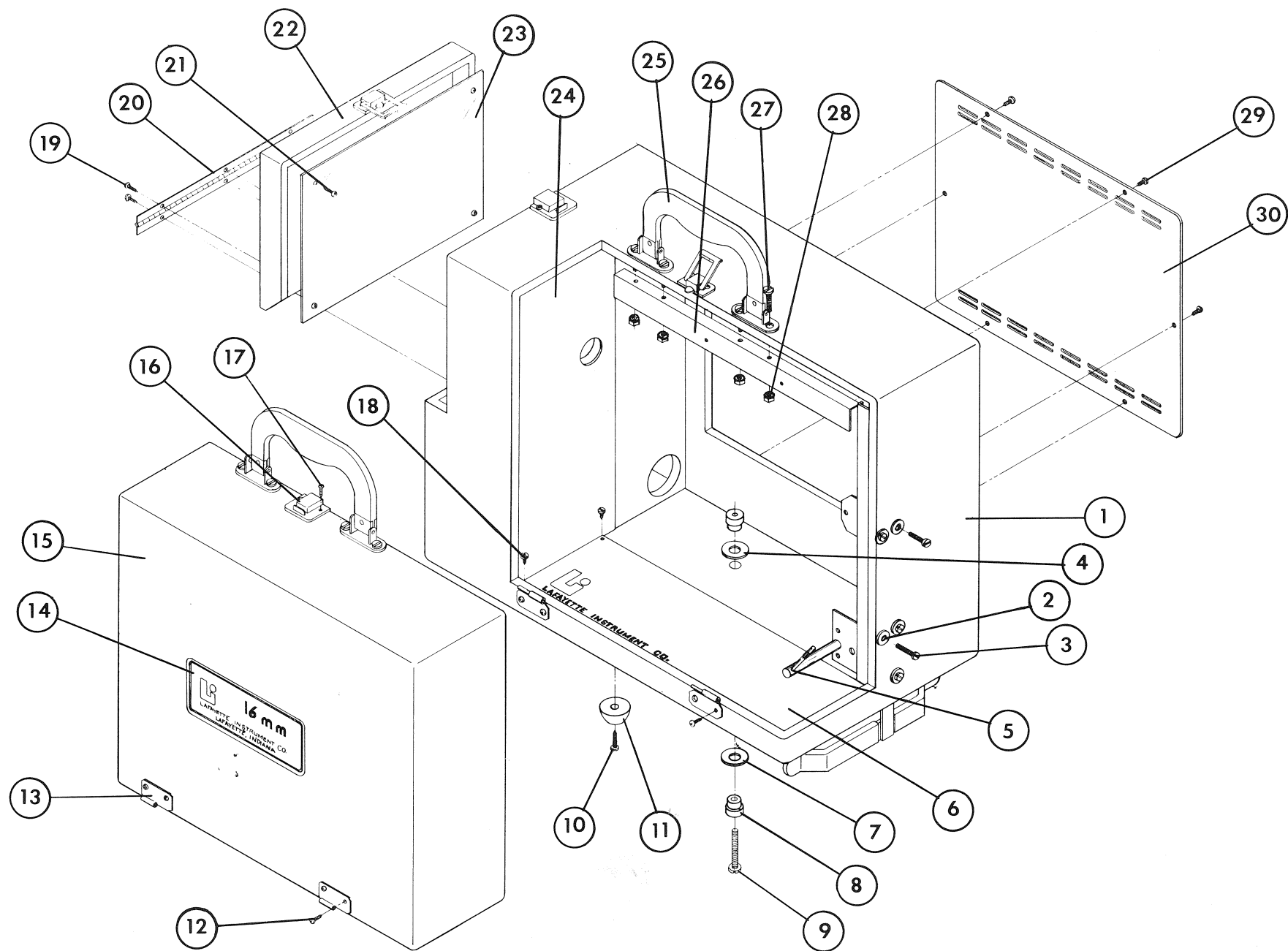


FIGURE 2

## ELEVATION ASSEMBLY

| No. | Part #  | Part Name                        | Fig. Qty. | No. | Part #  | Part Name              | Fig. Qty. |
|-----|---------|----------------------------------|-----------|-----|---------|------------------------|-----------|
| 1   | 100-113 | Slide Panel                      | 1         | 11  | 100-095 | Flange                 | 1         |
| 2   | 100-099 | Spacer                           | 5         | 12  | 100-097 | Elevation shaft        | 1         |
| 3   | 100-105 | Stop pin                         | 1         | 13  | 100-098 | Elevation bracket      | 1         |
| 4   | 100-131 | Elevation spring                 | 1         | 14  | 100-372 | 3/16" Tru-arc ring     | 1         |
| 5   | 100-085 | Side mtg. bracket                | 1         | 15  | 100-102 | Elevation rod assembly | 1         |
| 6   | 100-109 | Locking pin                      | 1         | 16  | 100-129 | Long rubber foot       | 1         |
| 7   | 100-106 | Elevation cam                    | 1         | 17  | 100-130 | Short rubber foot      | 1         |
| 8   | 100-371 | Spring pin                       | 1         |     |         |                        |           |
| 9   | 100-046 | Elevation handle                 | 1         |     |         |                        |           |
| 10  | 100-331 | Socket set screw<br>(6-32 x 1/8) | 1         |     |         |                        |           |

ELEVATION ASSEMBLY

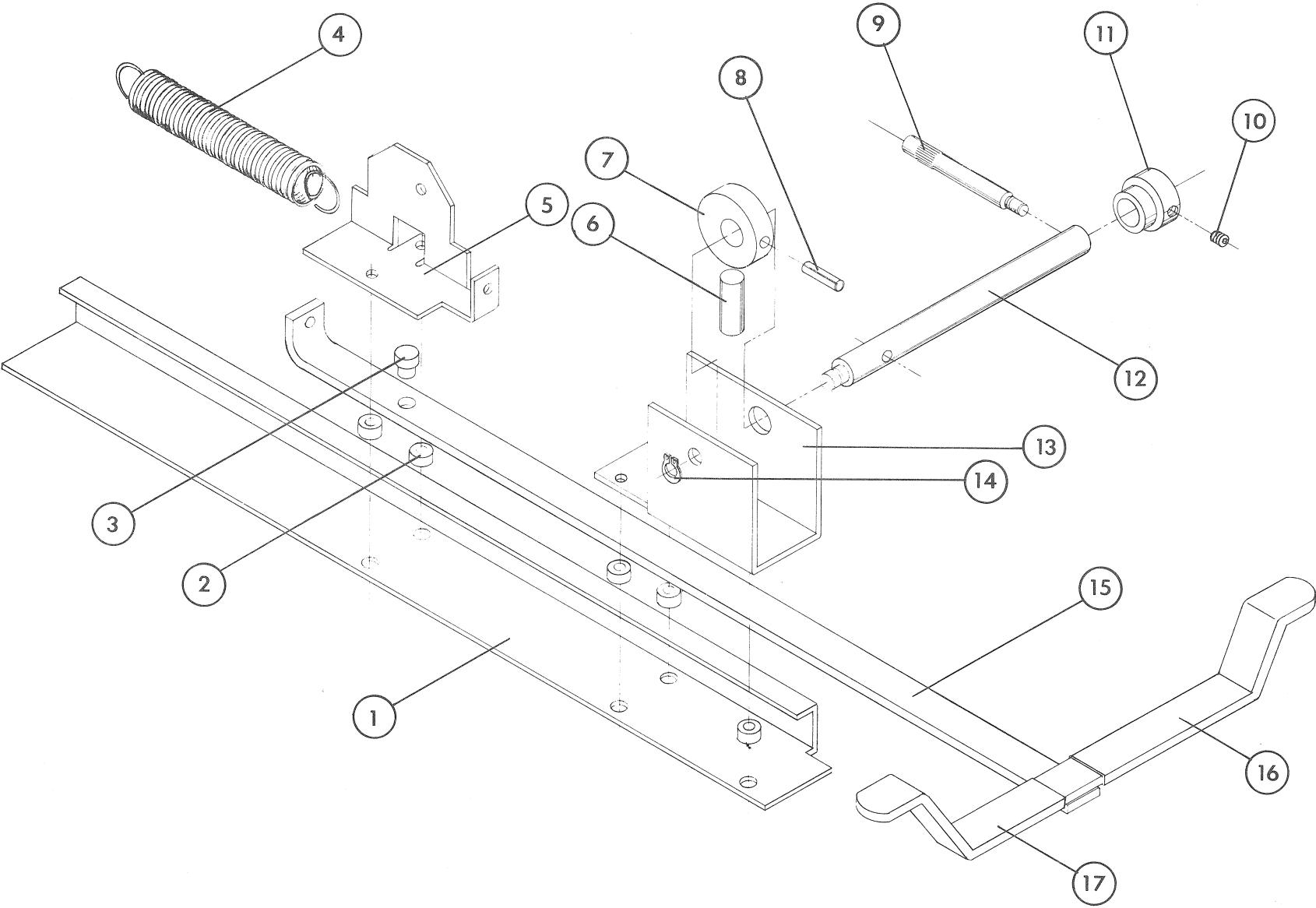


FIGURE 3

## PROJECTOR HEAD ASSEMBLY REAR VIEW

| No. | Part #  | Part Name            | Fig. | Qty. | No. | Part #  | Part Name               | Fig. | Qty. |
|-----|---------|----------------------|------|------|-----|---------|-------------------------|------|------|
| 1   |         | Drive motor assembly | 6    |      | 11  | 100-037 | Tygon tube              |      | 1    |
| 2   | 100-158 | Rubber drive belt    |      | 1    | 12  |         | Solenoid assembly       | 5    |      |
| 3   | 100-154 | Lower chain          |      | 1    | 13  |         | Blower motor assembly   | 5    |      |
| 4   |         | Lower gear assembly  | 9    |      | 14  |         | Blower housing assembly | 5    |      |
| 5   |         | Drive assembly       | 7    |      | 15  | 100-238 | Resistor                |      | 1    |
| 6   | 100-152 | Upper chain          |      | 1    | 16  | 100-239 | Capacitor               |      | 1    |
| 7   | 100-155 | Roller               |      | 1    | 17  | 100-315 | 6-32 x 5/8 binder head  |      | 2    |
| 8   | 100-156 | Tru-arc ring         |      | 1    |     |         |                         |      |      |
| 9   |         | Upper gear assembly  | 8    |      |     |         |                         |      |      |
| 10  | 100-040 | Air nozzle           |      | 1    |     |         |                         |      |      |

# PROJECTOR HEAD ASSEMBLY - REAR VIEW

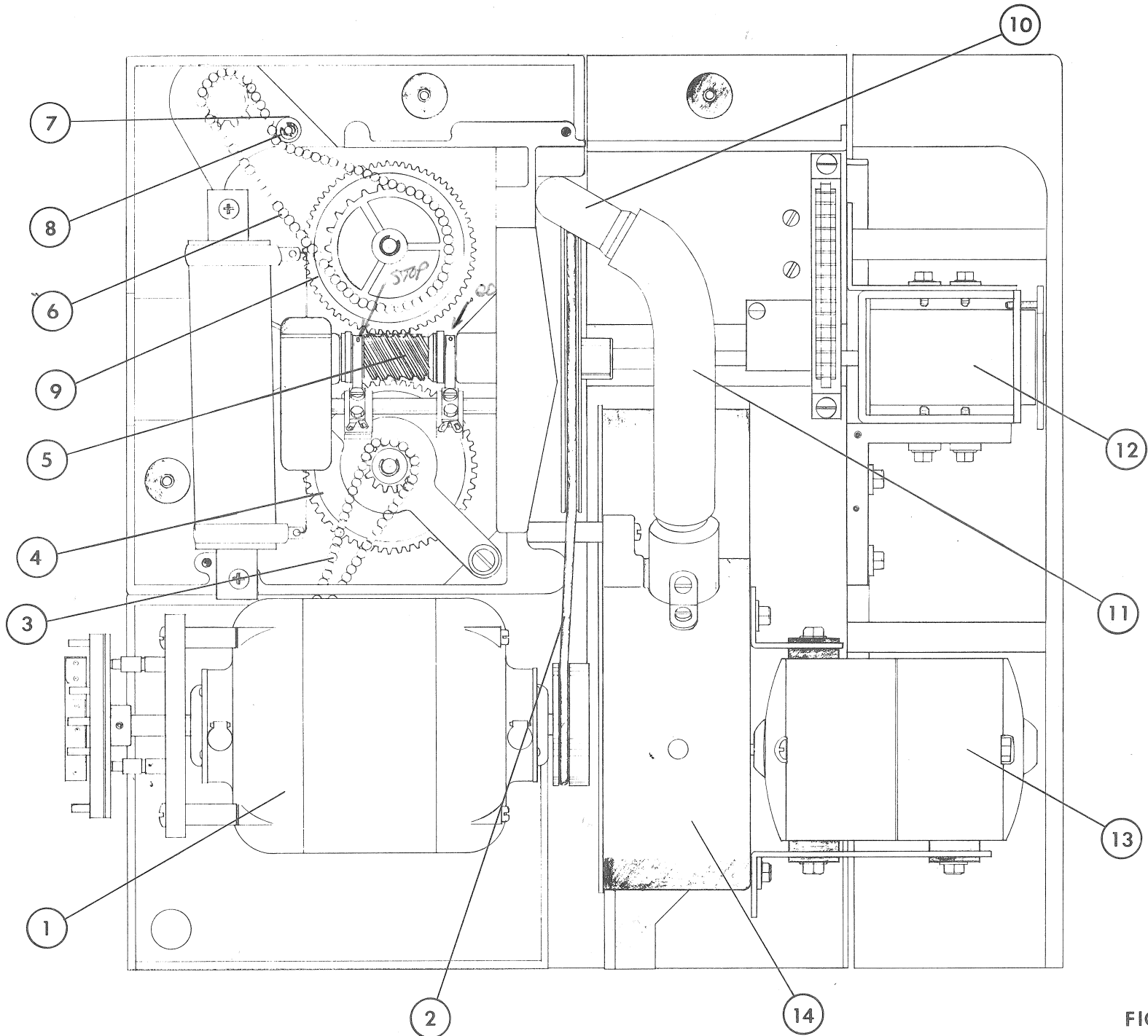


FIGURE 4

## BLOWER HOUSING ASSEMBLY

| No. | Part #  | Part Name                           | Fig. Qty. | No. | Part #  | Part Name                       | Fig. Qty. |
|-----|---------|-------------------------------------|-----------|-----|---------|---------------------------------|-----------|
| 1   | 100-127 | Blower motor                        | 1         | 21  | 100-305 | 4-40 x 5/16 screw               | 2         |
| 2   | 100-326 | 8-32 x 1/2 hex head bolt            | 3         | 22  | 100-004 | Bearing housing                 | 1         |
| 3   | 100-153 | Sleeve                              | 3         | 23  | 100-007 | Upper solenoid mounting bracket | 1         |
| 4   | 100-132 | Rubber grommet                      | 3         | 24  | 100-325 | 8-32 x 1/4 hex head bolt        | 2         |
| 5   | 100-081 | Lower blower motor mounting bracket | 1         | 25  | 100-363 | 8 x 5/16 washer                 | 4         |
| 6   | 100-082 | Upper blower motor mounting bracket | 1         | 26  | 100-003 | Solenoid                        | 1         |
| 7   | 100-325 | 8-32 x 1/4 hex head bolt            | 3         | 27  | 100-053 | Solenoid backstop screw         | 1         |
| 8   | 100-363 | #8 x 5/16 x 1/32 washer             | 3         | 28  | 100-058 | Solenoid housing cover          | 1         |
| 9   | 100-061 | Blower housing casting              | 1         | 29  | 100-135 | Vent screen                     | 2         |
| 10  | 100-159 | Blower fan                          | 1         | 30  | 100-323 | 8-32 x 1/2 flat head screw      | 2         |
| 11  | 100-160 | Cover plate                         | 1         | 31  | 100-002 | Solenoid stop                   | 1         |
| 12  | 100-304 | #4-40 x 3/16 screw                  | 3         | 32  | 100-161 | Solenoid housing standoff       | 2         |
| 13  | 100-304 | 4-40 x 3/16 screw                   | 2         | 33  | 100-311 | 6-32 x 3/16 screw               | 4         |
| 14  | 100-043 | Air deflector                       | 1         | 34  | 100-326 | 8-32 x 1/2 hex head bolt        | 4         |
| 15  | 100-304 | 4-40 x 3/16 screw                   | 2         | 35  | 100-368 | 8 x 5/16 x 1/32 washer          | 4         |
| 16  | 100-128 | Air reducer mtg. bracket            | 1         | 36  | 100-137 | Lower solenoid mtg. bracket     | 4         |
| 17  | 100-038 | Air reducer                         | 1         | 37  | 100-001 | Solenoid plunger                | 1         |
| 18  | 100-309 | 4-40 x 1 1/4 screw                  | 2         |     |         |                                 |           |
| 19  | 100-270 | Circuit board bracket               | 1         |     |         |                                 |           |
| 20  | 100-119 | Circuit board bracket spacer        | 2         |     |         |                                 |           |

# BLOWER HOUSING ASSEMBLY

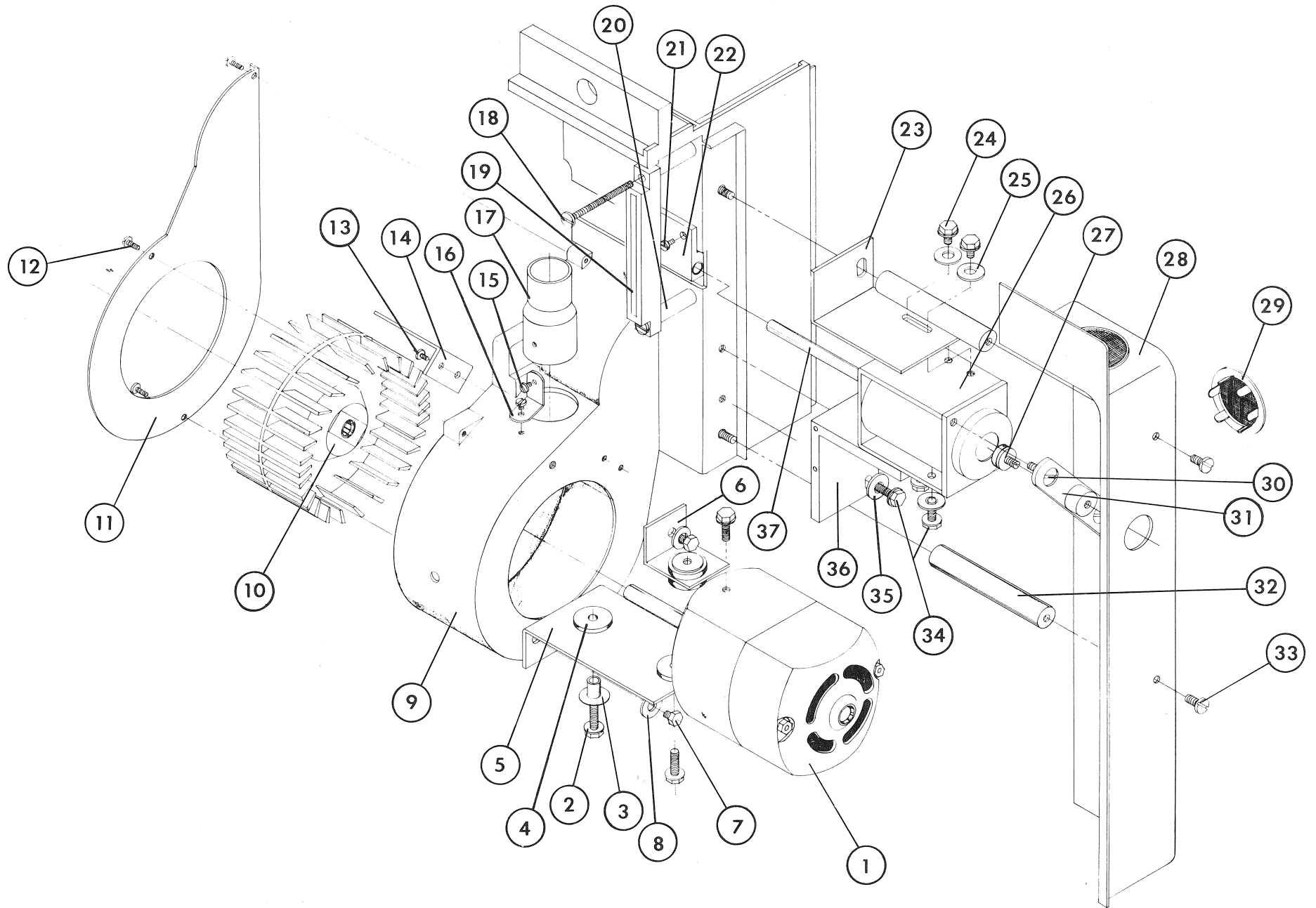


FIGURE 5

## DRIVE MOTOR ASSEMBLY

| No. | Part #  | Part Name              | Fig. Qty. | No. | Part #  | Part Name                    | Fig. Qty. |
|-----|---------|------------------------|-----------|-----|---------|------------------------------|-----------|
| 1   | 100-083 | Drive pulley           | 1         | 11  | 100-094 | Roller shaft                 | 1         |
| 2   | 100-126 | Drive motor            | 1         | 12  | 100-093 | Roller                       | 1         |
| 3   | 100-125 | Mounting block spacer  | 4         | 13  | 100-373 | 1/8 Tru-arc                  | 1         |
| 4   | 100-092 | Brush Mounting block   | 1         | 14  | 100-328 | 10-32 x 1/2 screw            | 2         |
| 5   | 100-318 | 6-32 x 2 screw         | 4         | 15  | 100-369 | 10-32 Kep nut                | 2         |
| 6   | 100-257 | Governor brush         | 3         | 16  | 100-110 | Motor mtg. spacer            | 1         |
| 7   | 100-104 | Governor               | 1         | 17  | 100-327 | #10-32 x 1/4 screw           | 3         |
| 8   | 100-258 | Motor brush            | 2         | 18  | 100-079 | Drive motor mounting bracket | 1         |
| 9   | 100-259 | Brush cap              | 2         | 19  | 100-368 | 6-32 Kep nut                 | 1         |
| 10  | 100-310 | 4-40 x 3/16 F.H. screw | 1         | 20  | 100-331 | 6-32 x 1/8 socket set screw  | 2         |

# DRIVE MOTOR ASSEMBLY

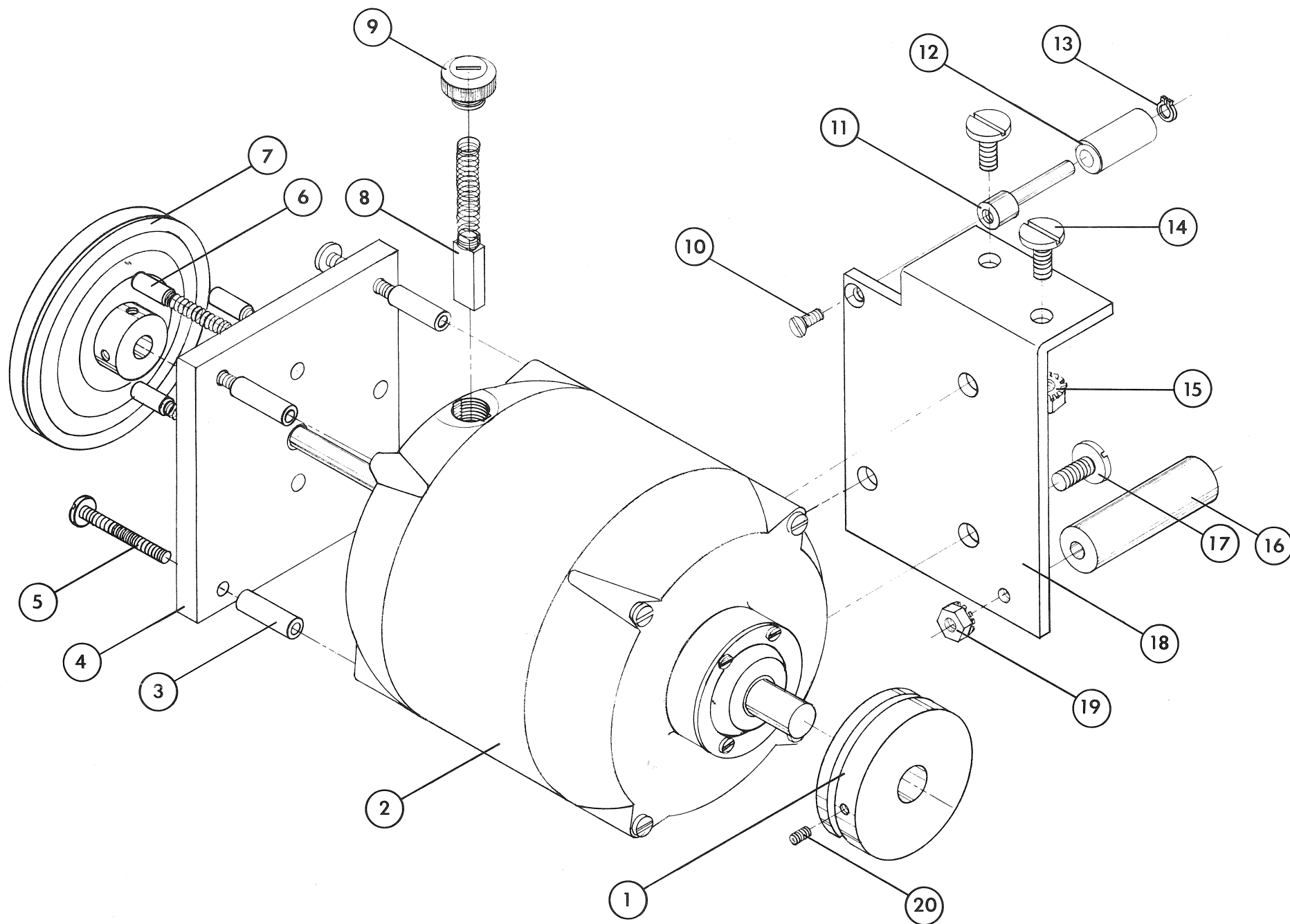


FIGURE 6

## DRIVE ASSEMBLY

| No. | Part #  | Part Name              | Fig. | Qty. | No. | Part #  | Part Name                     | Fig. | Qty. |
|-----|---------|------------------------|------|------|-----|---------|-------------------------------|------|------|
| 1   | 100-031 | Isolation stud holder  |      | 1    | 13  | 100-010 | Drive shaft                   |      | 1    |
| 2   | 100-030 | Thrust bearing         |      | 1    | 14  | 100-019 | Bearing assembly              |      | 1    |
| 3   | 100-029 | Steel thrust washer    |      | 2    | 15  | 100-014 | Claw cam assembly             |      | 1    |
| 4   | 100-028 | Worm                   |      | 1    | 16  | 100-304 | 4-40 x 3/16 screw             |      | 3    |
| 5   | 100-027 | Shock absorbing spring |      | 1    | 17  | 100-012 | Shutter                       |      | 1    |
| 6   | 100-025 | Worm carrier           |      | 1    | 18  | 100-063 | Shutter spacer                |      | 1    |
| 7   | 100-023 | Isolation stud         |      | 1    | 19  | 199-013 | Shutter hub                   |      | 1    |
| 8   | 100-022 | Nylon thrust washer    |      | 1    | 20  | 100-329 | 4-40 x 1/8 socket set screw   |      | 3    |
| 9   | 100-021 | Compression spring     |      | 1    | 21  | 100-064 | Drive insert set (two pieces) |      | 1    |
| 10  | 100-020 | Clutch facing          |      | 1    | 22  | 100-011 | 1/8 ball bearing              |      | 3    |
| 11  | 100-017 | Driver                 |      | 1    | 23  | 100-302 | 4-40 x 5/16 x Hex head screw  |      | 2    |
| 12  | 100-330 | 5-32 x 1/8 set screw   |      | 1    | 24  | 100-354 | #4 x 5/16 x 1/32 washer       |      | 1    |

# DRIVE ASSEMBLY

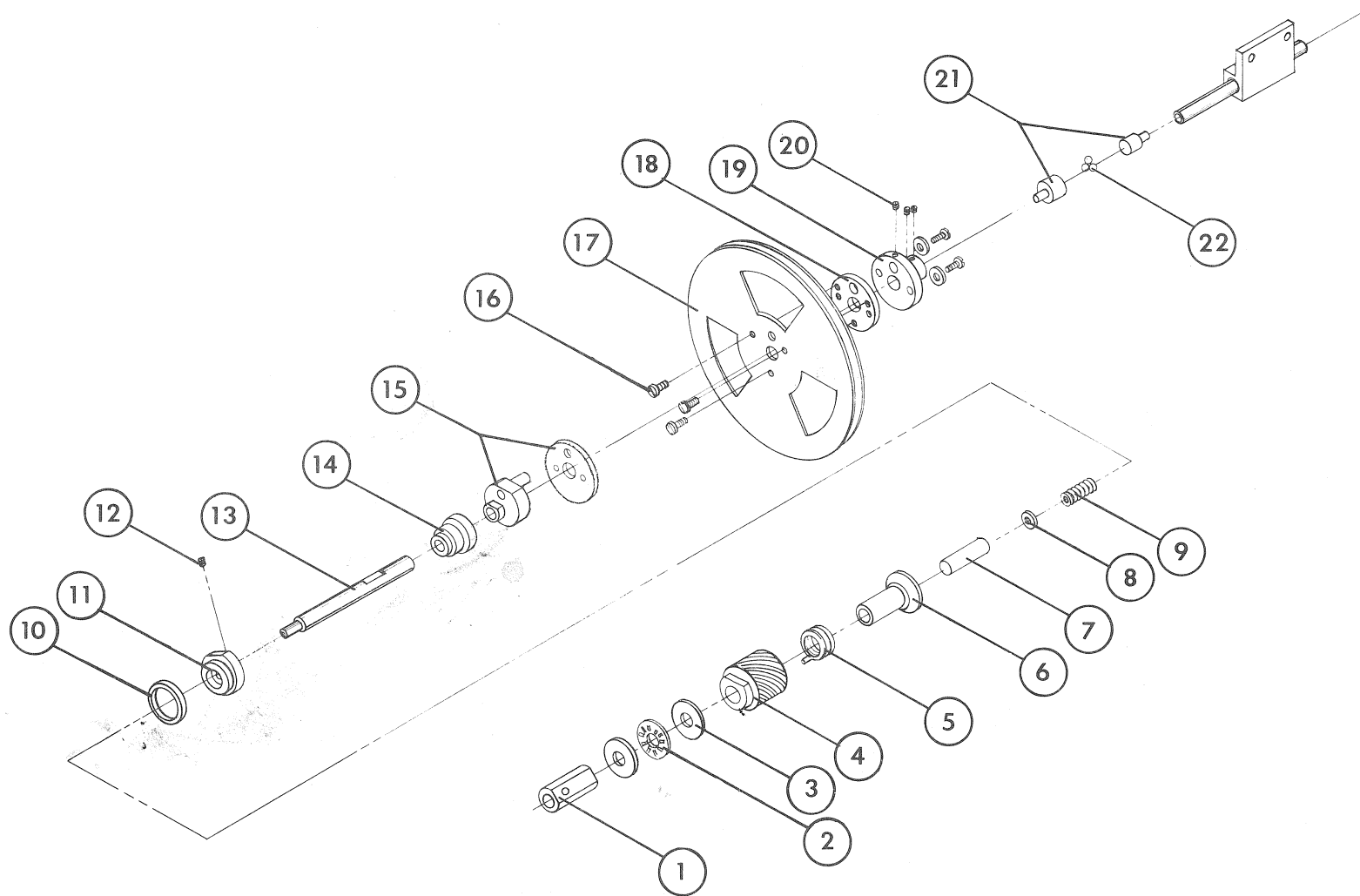


FIGURE 7

## UPPER WORM GEAR ASSEMBLY

| No. | Part #  | Part Name                       | Fig. | Qty. | No. | Part #  | Part Name                       | Fig. | Qty. |
|-----|---------|---------------------------------|------|------|-----|---------|---------------------------------|------|------|
| 1   | 100-162 | Insert                          |      | 1    | 5   | 100-165 | Upper sprocket                  |      | 1    |
| 2   | 100-361 | 3/16 x 7/16 x 1/32 nylon washer |      | 1    | 6   | 100-360 | 3/16 x 7/16 x 1/64 steel washer |      | 1    |
| 3   | 100-163 | Worm gear assembly              |      | 1    | 7   | 100-166 | Wave washer                     |      | 1    |
| 4   | 100-164 | Ball bearing                    |      | 3    | 8   | 100-167 | 1/4" "C" ring                   |      | 1    |

## LOWER WORM GEAR ASSEMBLY

| No. | Part #  | Part Name                       | Fig. | Qty. | No. | Part #  | Part Name                       | Fig. | Qty. |
|-----|---------|---------------------------------|------|------|-----|---------|---------------------------------|------|------|
| 1   | 100-162 | Insert                          |      | 1    | 7   | 100-166 | Wave washer                     |      | 2    |
| 2   | 100-361 | 7/16 x 3/16 x 1/32 nylon washer |      | 1    | 8   | 100-320 | 6-32 x 1/2 shoulder screw       |      | 2    |
| 3   | 100-163 | Worm gear                       |      | 1    | 9   | 100-170 | Lower sprocket                  |      | 1    |
| 4   | 100-164 | Ball bearing                    |      | 3    | 10  | 100-360 | 3/16 x 7/16 x 1/64 steel washer |      | 1    |
| 5   | 100-168 | Nylon pressure plate            |      | 1    | 11  | 100-167 | "C" ring                        |      | 1    |
| 6   | 100-169 | Steel pressure plate            |      | 1    |     |         |                                 |      |      |

# UPPER WORM GEAR ASSEMBLY

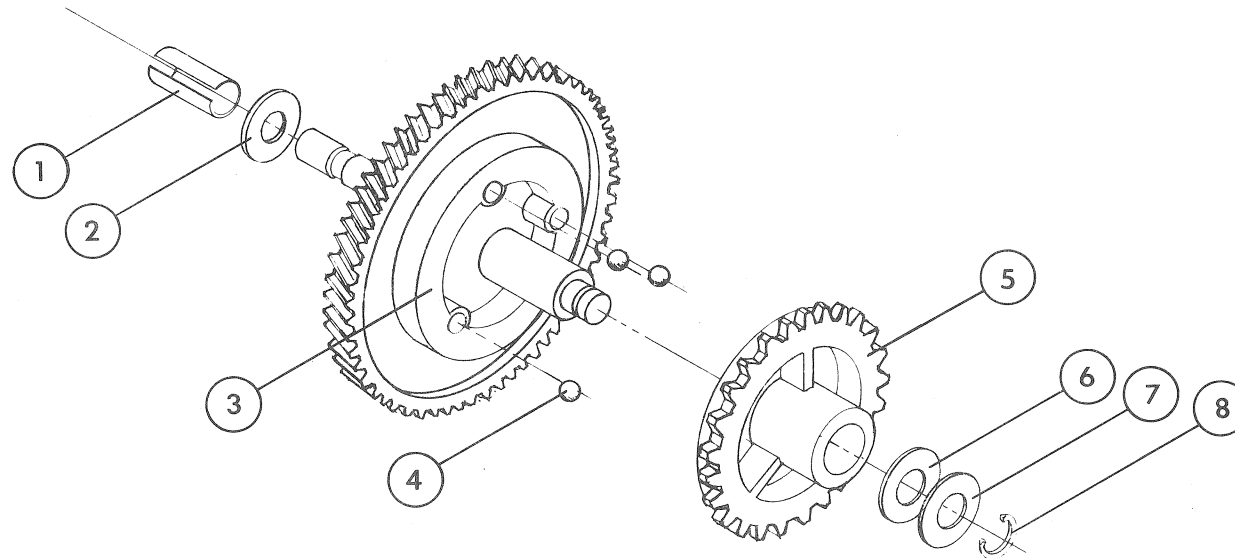


FIGURE 8

# LOWER WORM GEAR ASSEMBLY

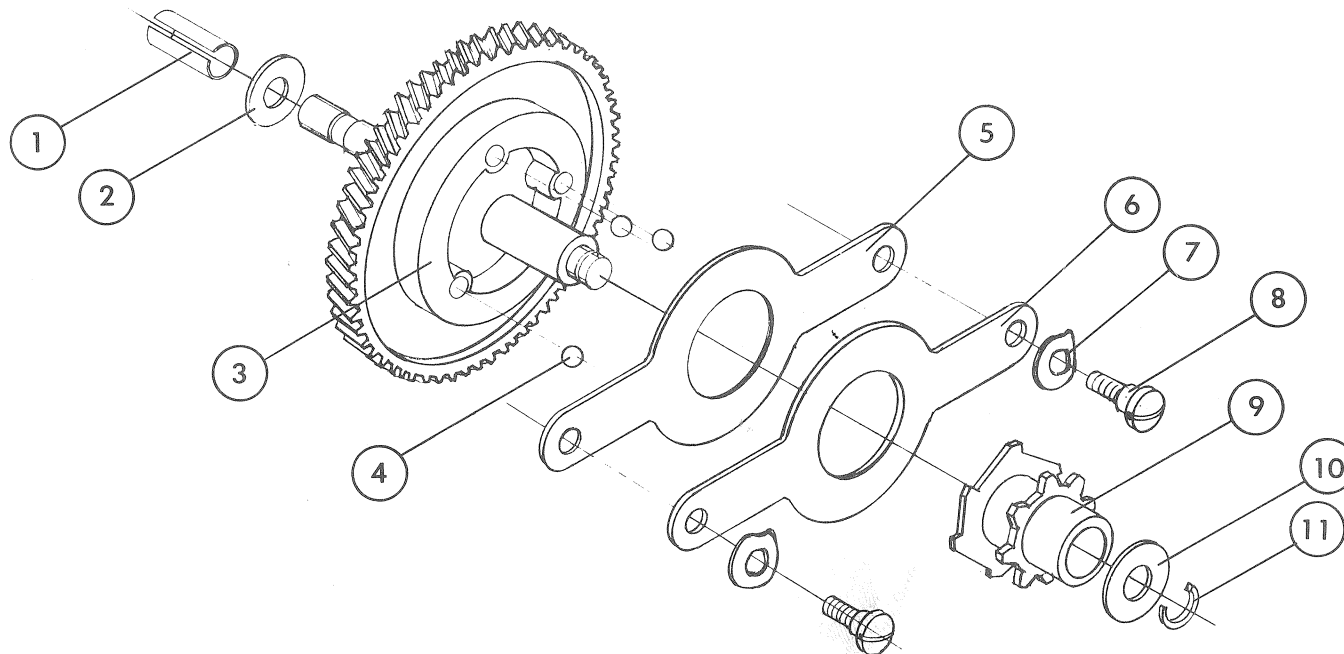


FIGURE 9

## CASTING ASSEMBLY-REAR VIEW

| No. | Part #  | Part Name                       | Fig. Qty. | No. | Part #  | Part Name              | Fig. Qty. |
|-----|---------|---------------------------------|-----------|-----|---------|------------------------|-----------|
| 1   |         | Casting                         | 14        | 16  | 100-356 | #6 x 1/2 x 1/32 washer | 1         |
| 2   |         | Claw assembly                   | 11        | 17  |         | Small lower sprocket   | 13        |
| 3   | 100-171 | Claw lift spring                | 1         | 18  | 100-140 | Threaded Stud          | 1         |
| 4   | 100-374 | #10-32 Hex nut                  | 2         | 19  | 100-139 | Leaf switch block      | 2         |
| 5   | 100-172 | Lamp socket assembly            | 1         | 20  | 100-035 | Leaf switch            | 2         |
| 6   | 100-356 | Washer (#6 x 1/2 x 1/32)        | 1         | 21  | 100-305 | #4-40 x 5/16 screw     | 4         |
| 7   | 100-173 | Spring washer                   | 1         | 22  | 100-332 | 8-32 x 3/8 set screw   | 1         |
| 8   | 100-321 | 6-32 x 5/8 shoulder screw       | 1         | 23  |         | Small upper sprocket   | 12        |
| 9   | 100-357 | #6 Internal tooth<br>lockwasher | 1         | 24  | 100-319 | 4-40 x 3/16 screw      | 2         |
| 10  | 100-312 | #6-32 x 1/4 screw               | 1         |     |         |                        |           |
| 11  | 100-174 | Plunger spring                  | 1         |     |         |                        |           |
| 12  | 100-308 | 4-40 x 7/8 screw                | 1         |     |         |                        |           |
| 13  | 100-353 | #4 x 1/4 x 1/32 washer          | 1         |     |         |                        |           |
| 14  | 100-021 | Compression spring              | 1         |     |         |                        |           |
| 15  | 100-107 | Spring spacer                   | 1         |     |         |                        |           |

# CASTING ASSEMBLY - REAR VIEW

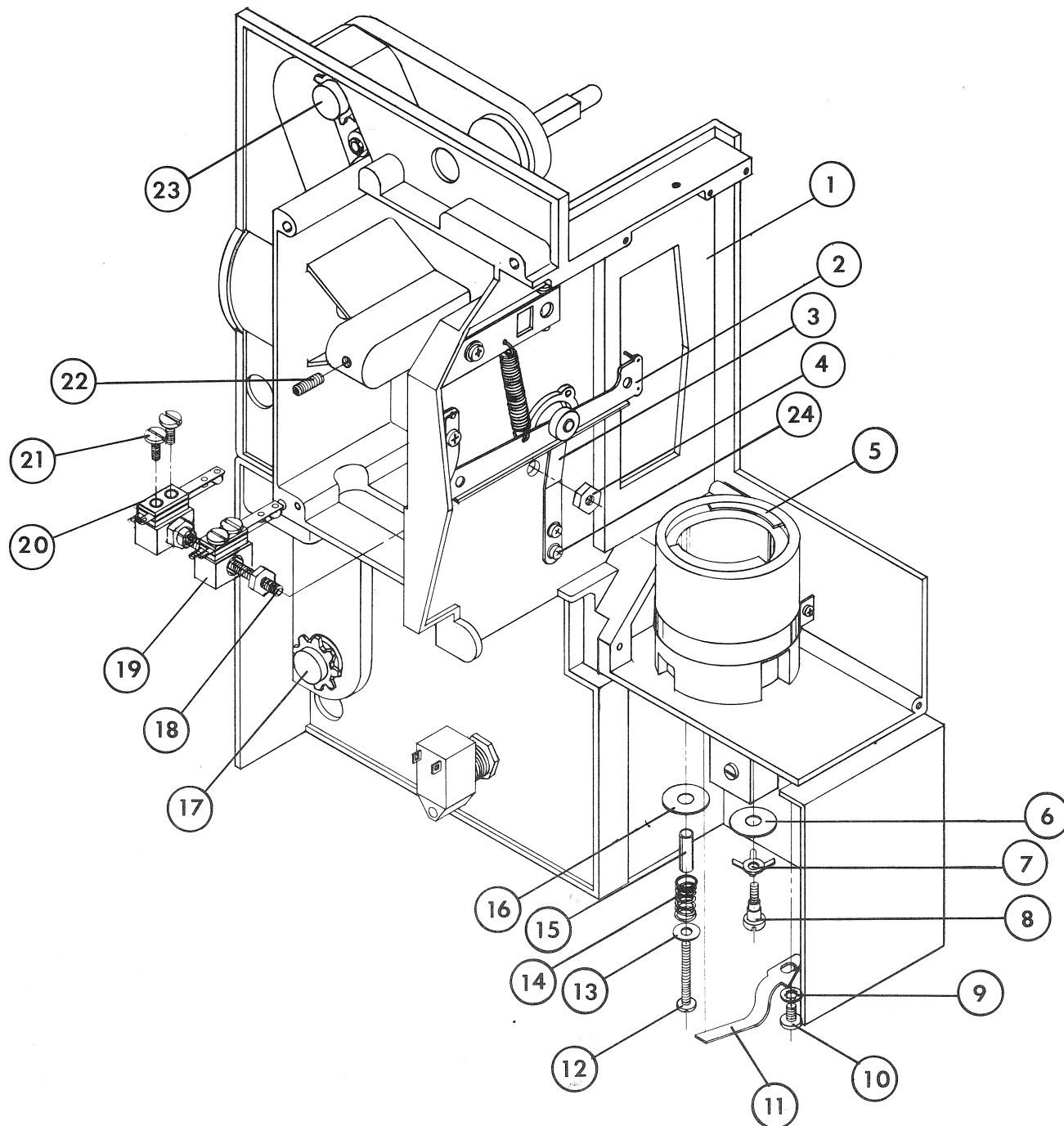


FIGURE 10

## CLAW ASSEMBLY

| No. | Part #  | Part Name                       | Fig. Qty. | No. | Part #  | Part Name                 | Fig. Qty. |
|-----|---------|---------------------------------|-----------|-----|---------|---------------------------|-----------|
| 1   | 100-175 | Claw arm assembly               | 1         | 11  | 100-182 | Brass washer              | 2         |
| 2   | 100-176 | Claw return spring              | 1         | 12  | 100-183 | Large felt pad            | 1         |
| 3   | 100-338 | 6-32 x 3/16 screw               | 1         | 13  | 100-184 | Spacer                    | 1         |
| 4   | 100-177 | Retainer spring                 | 1         | 14  | 100-185 | Plate                     | 1         |
| 5   | 100-178 | Small felt pad                  | 1         | 15  | 100-186 | Lever                     | 1         |
| 6   | 100-179 | 1/8" ball bearing               | 2         | 16  | 100-187 | Pivot                     | 1         |
| 7   | 100-180 | 3/16" ball bearing              | 1         | 17  | 100-337 | #4-40 x 5/16 screw        | 1         |
| 8   | 100-306 | 4-40 x 3/8 screw                | 2         | 18  | 100-188 | Framing Shaft             | 1         |
| 9   | 100-355 | #4 Internal tooth<br>lockwasher | 2         | 19  | 100-189 | Framing shaft spring      | 1         |
| 10  | 100-181 | Eccentric                       | 1         | 20  | 100-355 | 5/32 x 5/16 x 1/32 washer | 2         |
|     |         |                                 |           | 21  | 100-190 | 3/16 "E" ring             | 1         |

# CLAW ASSEMBLY

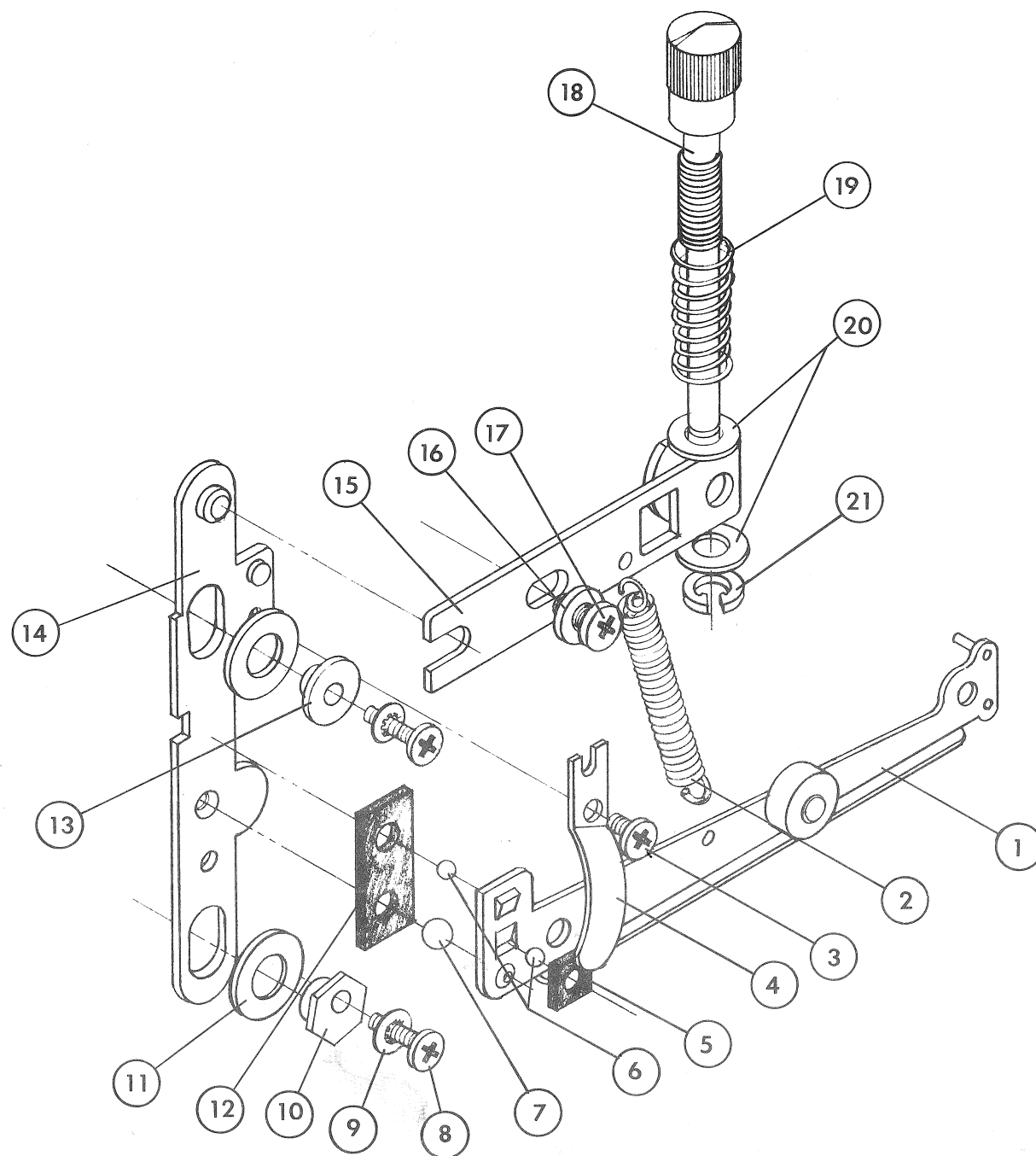


FIGURE 11

## SUPPLY ARM ASSEMBLY

| No. | Part #  | Part Name              | Fig. Qty. | No. | Part #  | Part Name        | Fig. Qty. |
|-----|---------|------------------------|-----------|-----|---------|------------------|-----------|
| 1   | 100-191 | Drive Sprocket         | 1         | 11  | 100-197 | 3/8 - 16 hex nut | 1         |
| 2   | 100-192 | Supply arm housing     | 1         | 12  | 100-198 | Wave washer      | 1         |
| 3   | 100-193 | Insert                 | 1         | 13  | 100-199 | Nylon washer     | 1         |
| 4   | 100-194 | Drive gear             | 1         | 14  | 100-200 | Plate            | 2         |
| 5   | 100-195 | 3/16 Truarc Ring       | 1         | 15  | 100-201 | Spindle Gear     | 1         |
| 6   | 100-196 | Gear                   | 1         | 16  | 100-202 | Cork washer      | 1         |
| 7   | 100-067 | Gear                   | 1         | 17  | 100-069 | Supply arm cover | 1         |
| 8   | 100-134 | Gear tension spring    | 1         | 18  | 100-303 | 4-40 x 1/8 screw | 1         |
| 9   | 100-353 | #4 x 1/4 x 1/32 washer | 1         | 19  | 100-203 | Spindle assembly | 1         |
| 10  | 100-304 | 4-40 x 5/16 screen     | 1         |     |         |                  |           |

## TAKE-UP ARM ASSEMBLY

| No. | Part #  | Part Name           | Fig. Qty. | No. | Part #  | Part Name                          | Fig. Qty. |
|-----|---------|---------------------|-----------|-----|---------|------------------------------------|-----------|
| 1   | 100-191 | Drive Sprocket      | 1         | 9   | 100-199 | Nylon washer<br>(3/8 x 5/8 x 1/64) | 1         |
| 2   | 100-204 | Take-up arm housing | 1         | 10  | 100-200 | Plate                              | 2         |
| 3   | 100-193 | Insert              | 1         | 11  | 100-201 | Spindle gear                       | 1         |
| 4   | 100-194 | Gear                | 1         | 12  | 100-202 | Cork washer                        | 1         |
| 5   | 100-195 | 3/16 Truarc ring    | 1         | 13  | 100-205 | Take-up arm cover                  | 1         |
| 6   | 100-196 | Gear                | 1         | 14  | 100-203 | Spindle assembly                   | 1         |
| 7   | 100-197 | 3/8 - 16 Hex nut    | 1         | 15  | 100-303 | 4-40 x 1/8 screw                   | 2         |
| 8   | 100-198 | Wave washer         | 1         |     |         |                                    |           |

# SUPPLY ARM ASSEMBLY

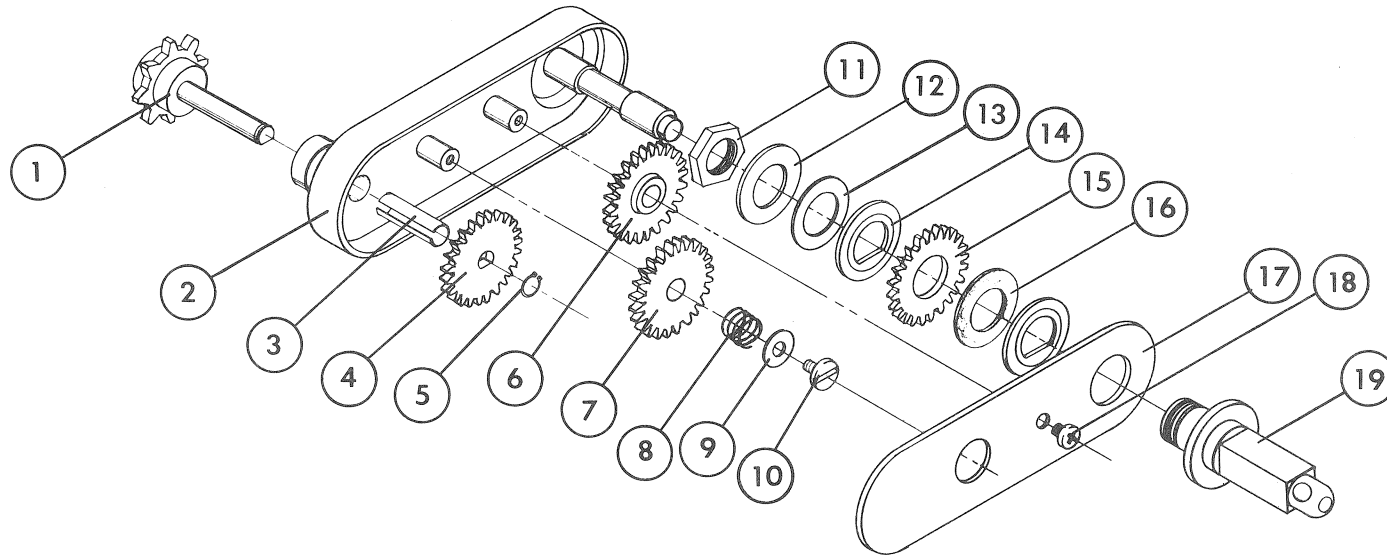


FIGURE 12

# TAKE - UP ARM ASSEMBLY

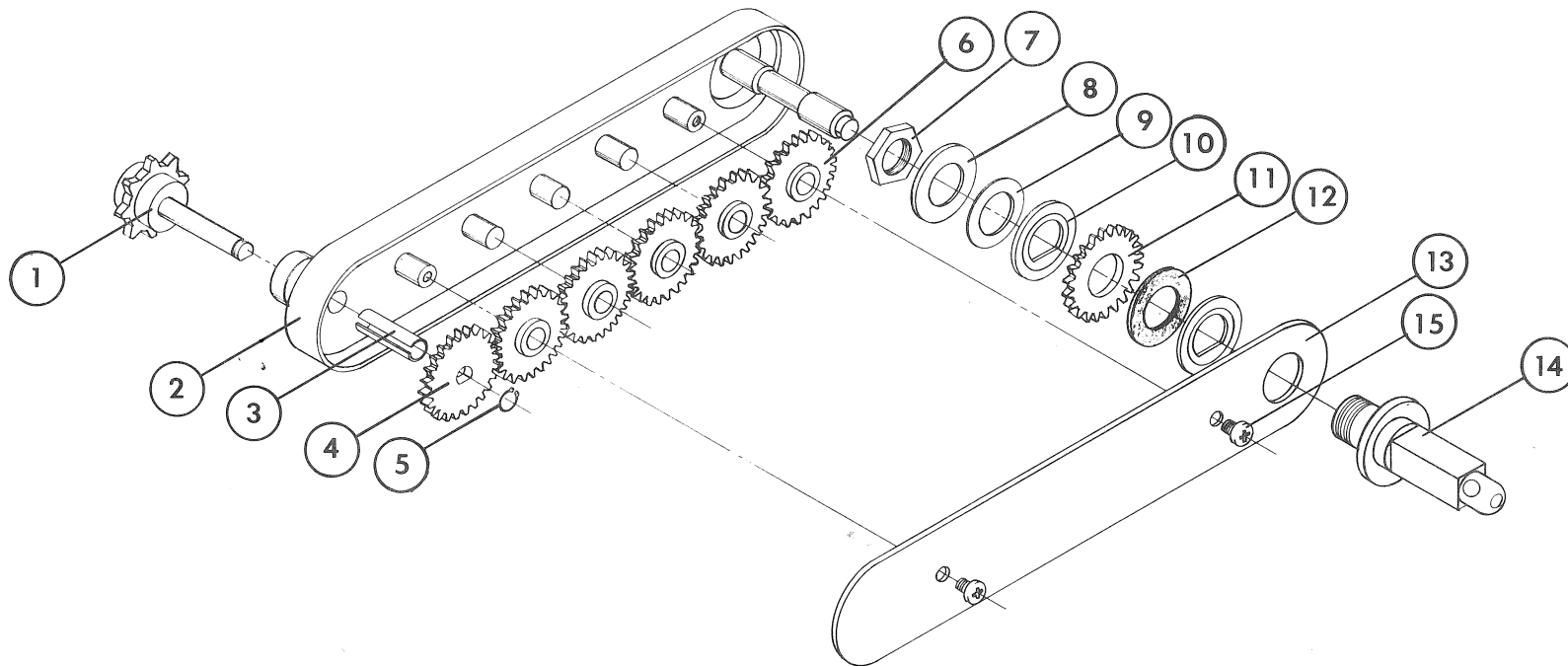


FIGURE 13

## PROJECTOR HEAD ASSEMBLY

| No. | Part #  | Part Name                     | Fig. | Qty. | No. | Part #  | Part Name               | Fig. | Qty. |
|-----|---------|-------------------------------|------|------|-----|---------|-------------------------|------|------|
| 1   |         | Lower Sprocket Plate Assembly | 17   | 1    | 8   |         | Aperture Plate Assembly | 18   |      |
| 2   | 100-317 | 6-32 x 1 1/4 screw            |      | 1    | 9   |         | Gate Adjust Knob        | 18   |      |
| 3   | 100-036 | Film roll                     |      | 1    | 10  |         | Gate latch assembly     | 18   |      |
| 4   |         | Upper Sprocket Plate Assembly | 16   |      | 11  | 100-207 | Lamp adjust screw       |      | 1    |
| 5   |         | Lamp bulb                     |      | 1    | 12  | 100-208 | Lower film guide plate  |      | 1    |
| 6   |         | Lamp Chimney Assembly         | 15   |      | 13  | 100-057 | Casting                 |      | 1    |
| 7   | 100-206 | Upper Film guide Plate        |      | 1    | 14  | 100-216 | Lower casting half      |      | 1    |

# PROJECTOR HEAD ASSEMBLY

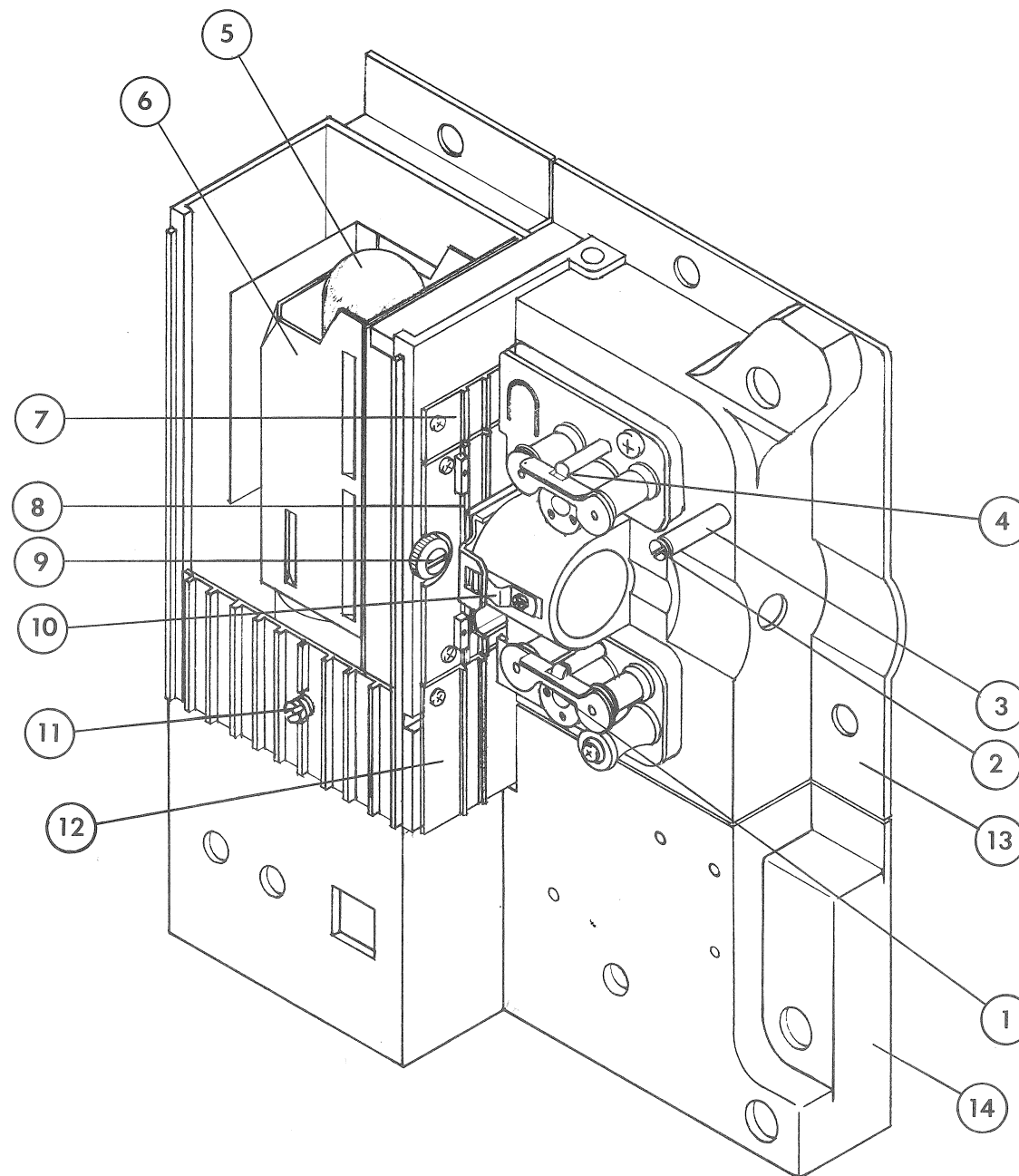


FIGURE 14

## CHIMNEY ASSEMBLY

| No. | Part #  | Part Name        | Fig. Qty. | No. | Part #  | Part Name                                 | Fig. Qty. |
|-----|---------|------------------|-----------|-----|---------|-------------------------------------------|-----------|
| 1   | 100-056 | Chimney          | 1         | 7   | 100-213 | Condenser spring                          | 1         |
| 2   | 100-210 | Reflector        | 1         | 8   | 100-214 | Front lens                                | 1         |
| 3   | 100-045 | Heat deflector   | 1         | 9   | 100-215 | Condenser body (sold<br>only in assembly) | 1         |
| 4   | 100-221 | Spring clip      | 1         | 10  | 100-354 | #4 x 5/16 x 1/32<br>washer                | 4         |
| 5   | 100-051 | Condenser screen | 1         | 11  | 100-305 | 4-40 x 5/16 screw                         | 4         |
| 6   | 100-212 | Rear lens        | 1         |     |         |                                           |           |

# CHIMNEY ASSEMBLY

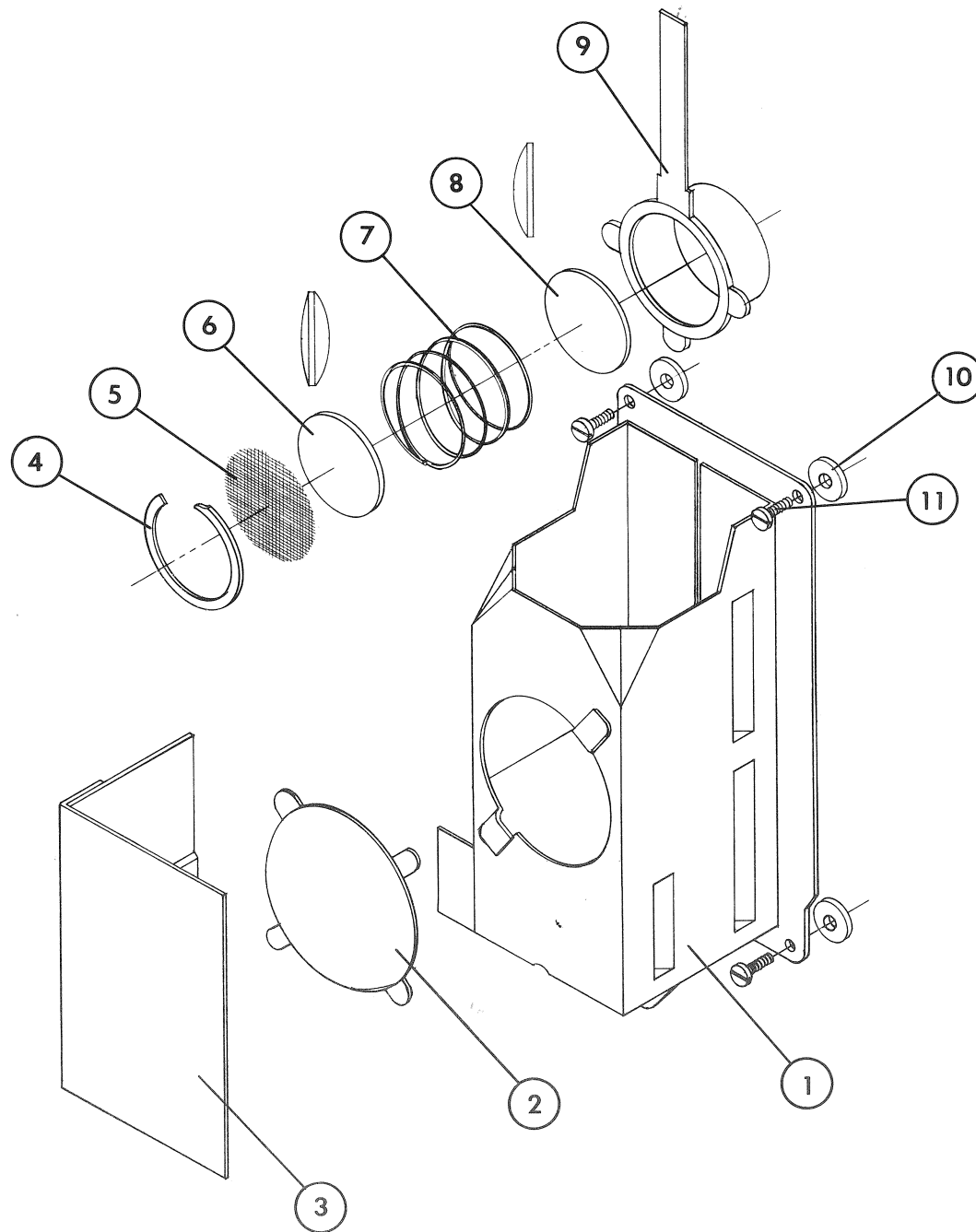


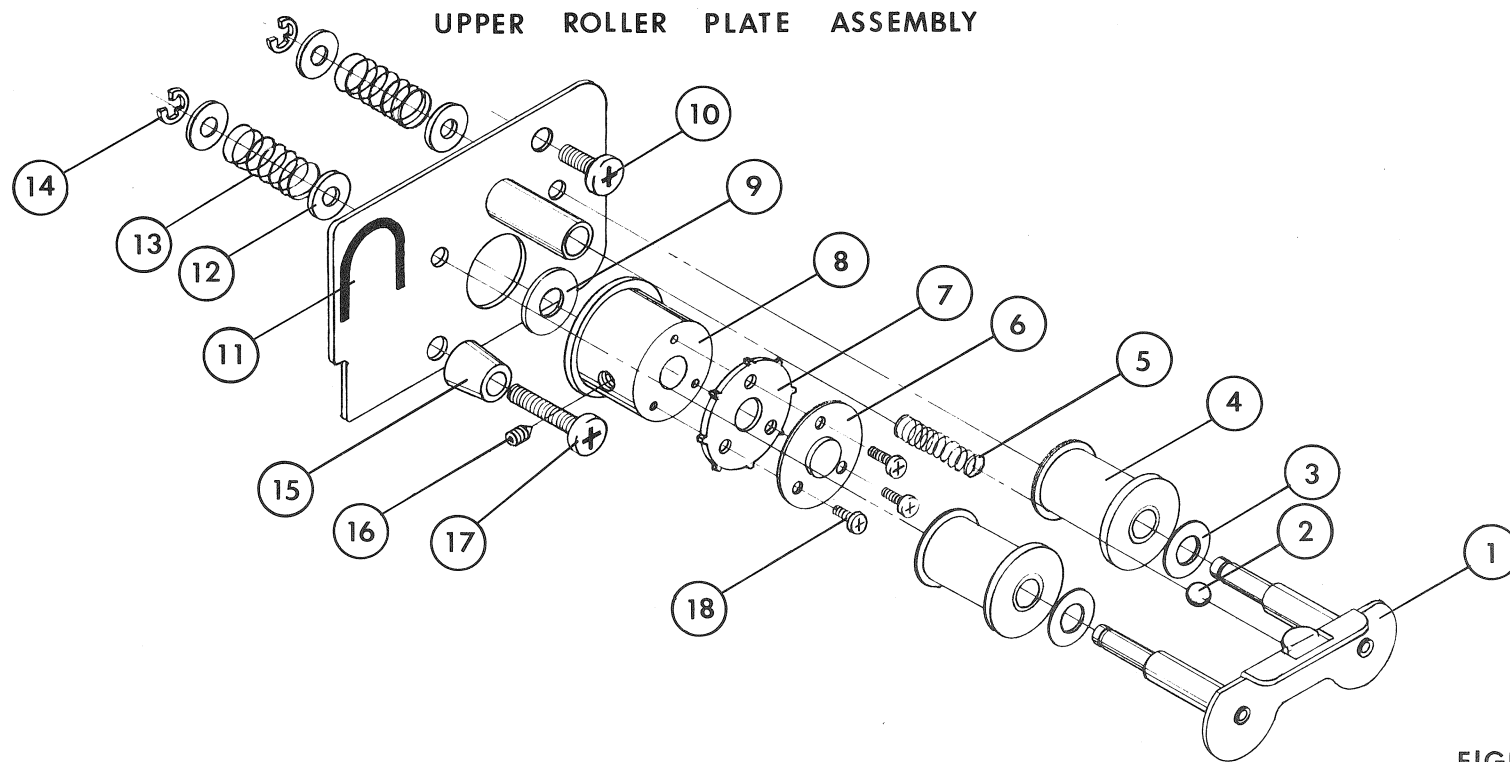
FIGURE 15

## UPPER ROLLER PLATE ASSEMBLY

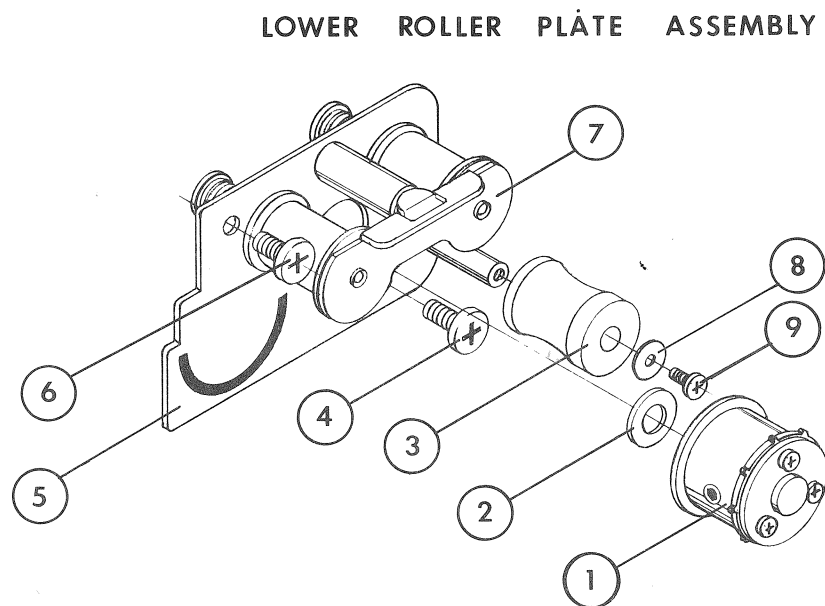
| No. | Part #  | Part Name                       | Fig. Qty. | No. | Part #  | Part Name                      | Fig. Qty. |
|-----|---------|---------------------------------|-----------|-----|---------|--------------------------------|-----------|
| 1   | 100-217 | Roller Plate                    | 1         | 11  | 100-224 | Upper plate                    | 1         |
| 2   | 100-218 | Nylon Ball                      | 1         | 12  | 100-351 | #4 x 3/16 x 1/3 Washer         | 4         |
| 3   | 100-359 | Washer (3/16 x 1/4 x 1/64)      | 2         | 13  | 100-225 | Pressure spring                | 2         |
| 4   | 100-219 | Film roller                     | 2         | 14  | 100-226 | 1/8 "E" ring                   | 2         |
| 5   | 100-220 | Compression spring              | 1         | 15  | 100-227 | Sleeve                         | 1         |
| 6   | 100-221 | Sprocket plate                  | 1         | 16  | 100-330 | 5-32 x 1/8 Socket set screw    | 1         |
| 7   | 100-222 | Sprocket                        | 1         | 17  | 100-340 | 6-32 x 5/8 Phillips head screw | 3         |
| 8   | 100-223 | Sprocket hub                    | 1         | 18  | 100-300 | 2-56 x 1/8 Phillips head screw | 3         |
| 9   | 100-361 | 3/16 x 7/16 x 1/32 Nylon washer | 1         |     |         |                                |           |
| 10  | 100-339 | 6-32 x 1/4 Phillips head Screw  | 1         |     |         |                                |           |

## LOWER ROLLER PLATE ASSEMBLY

| No. | Part #  | Part Name                       | Fig. Qty. | No. | Part #  | Part Name                      | Fig. Qty. |
|-----|---------|---------------------------------|-----------|-----|---------|--------------------------------|-----------|
| 1   |         | Sprocket Assembly               | 16        | 6   | 100-339 | 6-32 x 1/4 Phillips head screw | 1         |
| 2   | 100-361 | 3/16 x 7/16 x 1/32 nylon washer | 1         | 7   |         | Film roller assembly 16        |           |
| 3   | 100-229 | Nylon roller                    | 1         | 8   | 100-351 | #4 x 3/16 x 1/32 washer        | 1         |
| 4   | 100-339 | 6-32 x 1/4 phillips head        | 1         | 9   | 100-319 | 4-40 x 3/16 screw              | 1         |
| 5   | 100-228 | Lower Plate                     | 1         |     |         |                                |           |



**FIGURE 16**



**FIGURE 17**

## APERTURE PLATE ASSEMBLY

| No. | Part #  | Part Name                   | Fig. | Qty. |
|-----|---------|-----------------------------|------|------|
| 1   |         | Aperture Plate Sub-Assembly | 19   |      |
| 2   | 100-075 | Gate adjustment knob        |      | 1    |
| 3   | 100-230 | Gate Assembly               |      | 1    |
| 4   | 100-319 | 4-40 x 3/16 Phillips Screw  |      | 2    |
| 5   | 100-319 | 4-40 x 3/16 Phillips Screw  |      | 1    |
| 6   | 100-231 | Catch                       |      | 1    |
| 7   | 100-232 | Spring                      |      | 1    |
| 8   | 100-233 | Ball                        |      | 1    |

## APERTURE PLATE SUBASSEMBLY

| No. | Part #  | Part Name                    | Fig. | Qty. |
|-----|---------|------------------------------|------|------|
| 1   | 100-301 | 2-56 x 3/16 screw            |      | 2    |
| 2   | 100-350 | #2 Internal tooth lockwasher |      | 2    |
| 3   | 100-234 | Spring                       |      | 1    |
| 4   | 100-235 | Post                         |      | 1    |
| 5   | 100-136 | Post spacer                  |      | 2    |
| 6   | 100-073 | Aperture plate               |      | 1    |
| 7   | 100-236 | Filter clip                  |      | 2    |
| 8   | 100-048 | Front heat filter            |      | 1    |
| 9   | 100-301 | 2-56 x 3/16 screw            |      | 2    |
| 10  | 100-350 | #2 Internal tooth lockwasher |      | 2    |
| 11  | 100-047 | Rear heat filter             |      | 1    |

# APERTURE PLATE ASSEMBLY

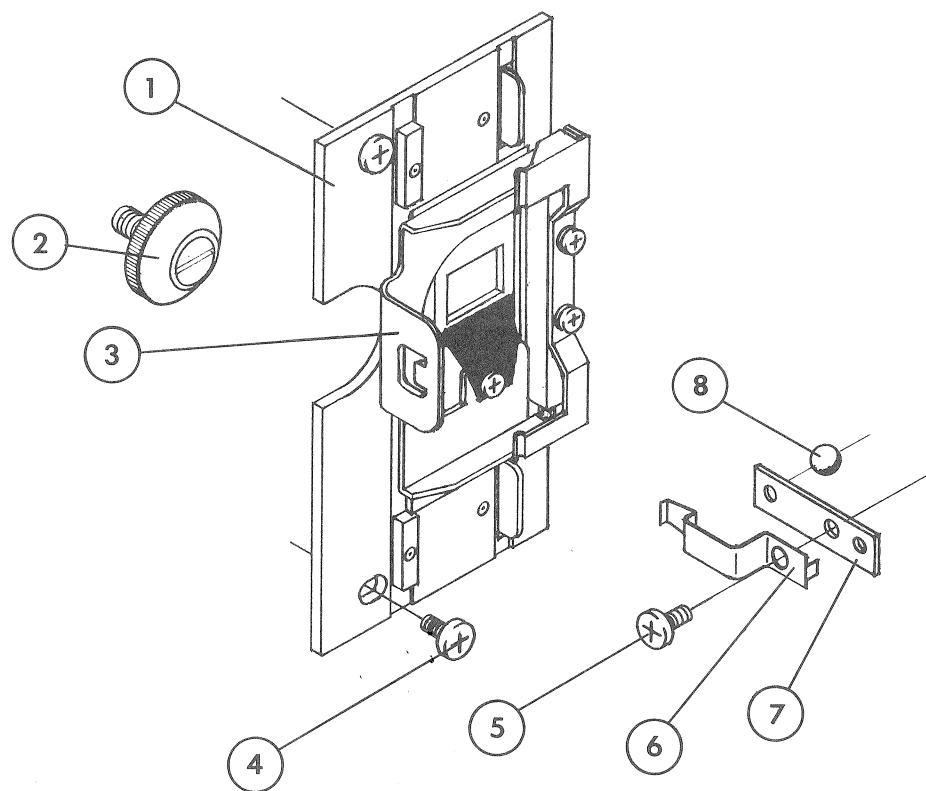


FIGURE 18

# APERTURE PLATE SUBASSEMBLY

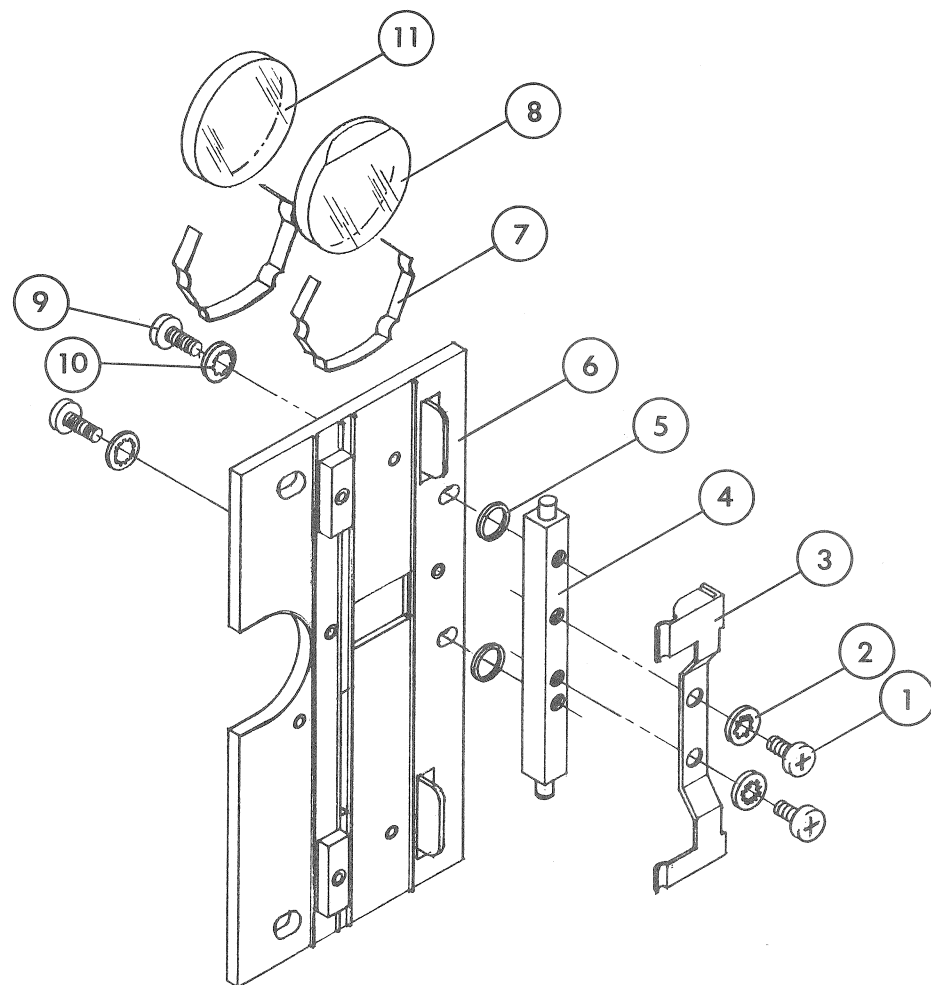


FIGURE 19

## 00100 REMOTE CONTROL BOX

| No. | Part #  | Part Name                         | Fig. Qty. | No. | Part #  | Part Name                        | Fig. Qty. |
|-----|---------|-----------------------------------|-----------|-----|---------|----------------------------------|-----------|
| 1   | 100-059 | Box                               | 1         | 11  | 100-263 | Knob                             | 1         |
| 2   | 100-260 | 12 pin plug                       | 1         | 12  | 100-370 | 3/8 - 16 Hex Nut                 | 2         |
| 3   | 100-304 | 4-40 x 3/16 screw                 | 2         | 13  | 100-305 | Washer (3/8 x 5/8)               | 1         |
| 4   | 100-266 | Circuit board                     | 1         |     |         | x 1/32                           | 1         |
| 5   | 100-119 | Standoff                          | 2         | 14  | 100-264 | 9 Pin switch                     | 1         |
| 6   | 100-261 | 12 Pin switch                     | 1         | 15  | 100-060 | Back-up Plate                    | 1         |
| 7   | 100-355 | #4 Internal tooth lock-<br>Washer | 2         | 16  | 100-367 | 3/8 Internal tooth<br>lockwasher | 1         |
| 8   | 100-310 | 4-40 x 3/16 F.H. screw            | 2         | 17  | 100-265 | Pot                              | 1         |
| 9   | 100-059 | Lid                               | 2         | 18  | 100-304 | 4-40 x 3/16 screw                | 2         |
| 10  | 100-262 | Push button switch                | 2         | 19  | 100-267 | Grommet                          | 1         |
|     |         |                                   |           | 20  | 100-268 | 10 ft. cord                      | 1         |

00100 REMOTE CONTROL

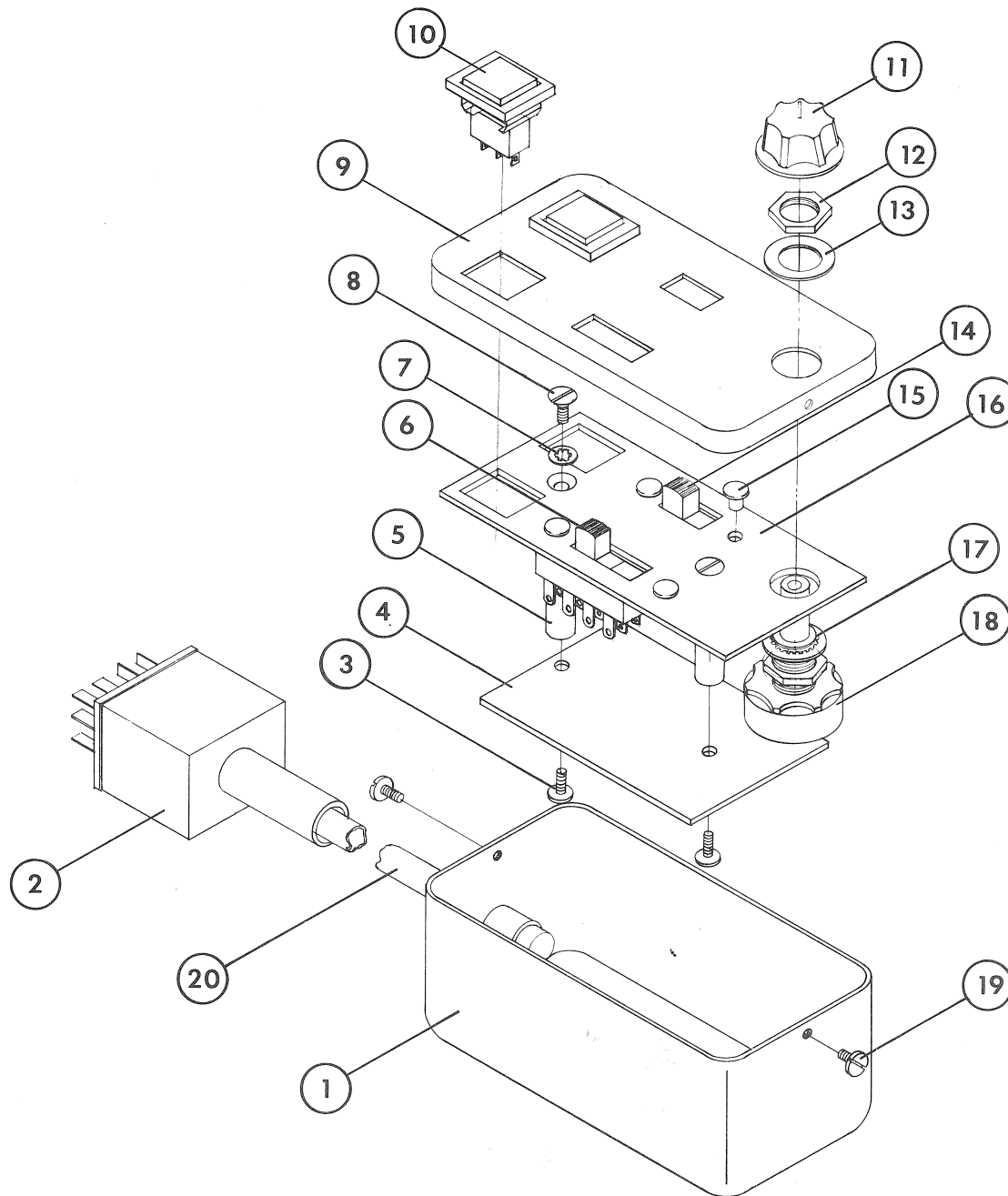


FIGURE 20

## 00200 FRAME COUNTER ASSEMBLY

| No. | Part #  | Part Name          | Fig. Qty. | No. | Part #  | Part Name                   | Fig. Qty. |
|-----|---------|--------------------|-----------|-----|---------|-----------------------------|-----------|
| 1   | 200-005 | Chain Guard        | 1         | 7   | 100-307 | 4-40 x 1/2 screw            | 4         |
| 2   | 100-317 | 6-32 x 1 1/4 screw | 1         | 8   | 100-300 | 2-56 x 1/8 screw            | 3         |
| 3   | 200-002 | Counter base       | 1         | 9   | 100-221 | Plate                       | 1         |
| 4   | 200-004 | Chain              | 1         | 10  | 100-222 | Sprocket                    | 1         |
| 5   | 200-008 | Counter sprocket   | 1         | 11  | 200-006 | Sprocket hub                | 1         |
| 6   | 200-003 | Counter            | 1         | 12  | 200-009 | Nylon Washer,<br>5/16 x 7/8 | 1         |

# 00200 FRAME COUNTER ASSEMBLY

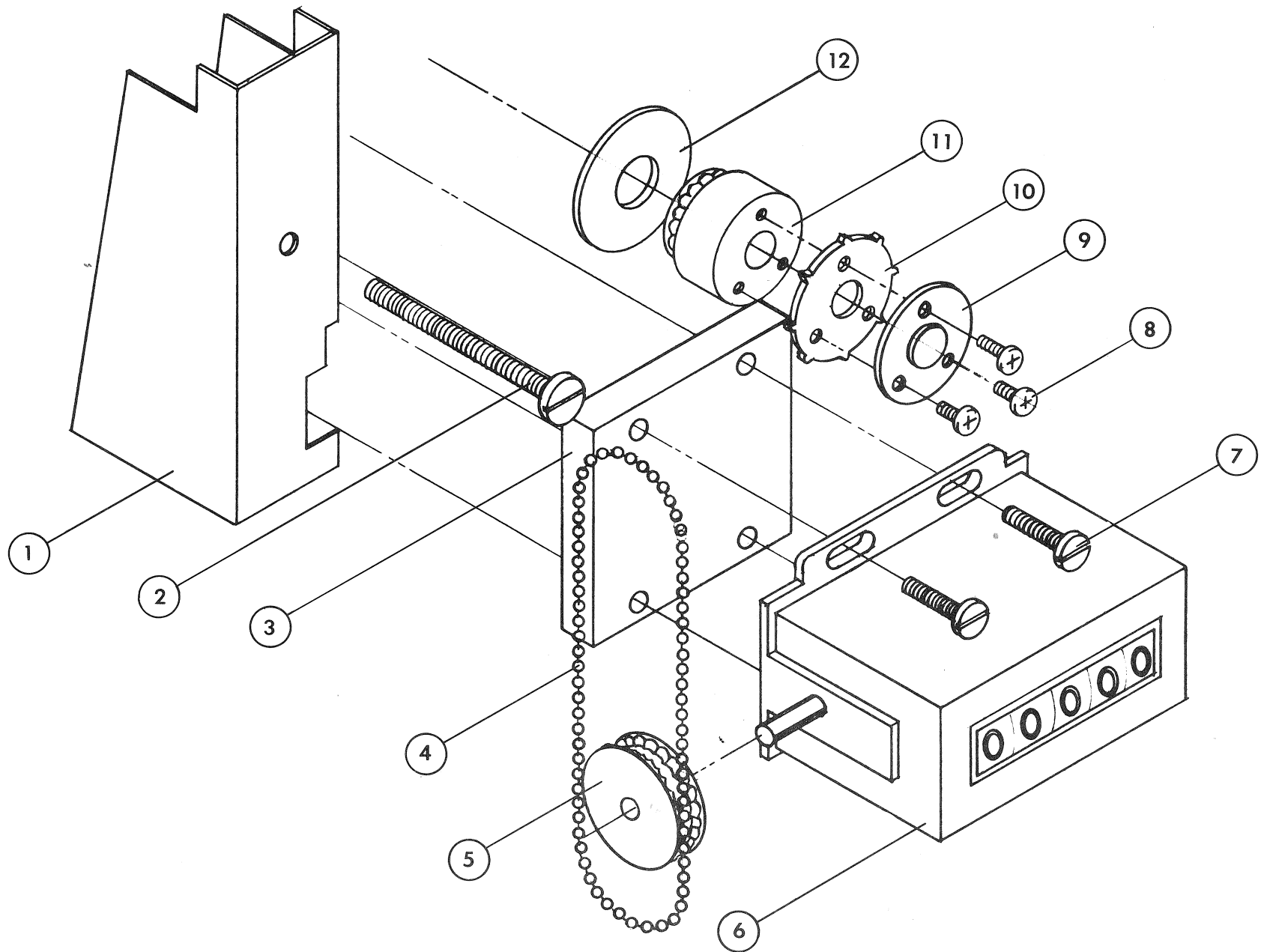


FIGURE 21

## 00300 REMOTE CONTROL BOX

| No. | Part #   | Part Name                           | Fig. Qty. | No. | Part #  | Part Name         | Fig. Qty. |
|-----|----------|-------------------------------------|-----------|-----|---------|-------------------|-----------|
| 1   | 300-004  | Box                                 | 1         | 11  | 100-370 | 3/8 - 16 Hex nut  | 1         |
| 2   | 100-260  | 12 Pin Plug                         | 1         | 12  | 100-365 | 3/8 x 5/8 x 1/32  | 1         |
| 3   | 300-007  | Standoff                            | 4         |     |         | Washer            |           |
| 4   | 100-357  | #6 Internal tooth lock-washer       | 4         | 13  | 300-005 | Back-up plate     | 1         |
| 5   | 100-322  | 6-32 x 3/16 Undercut Flathead screw | 4         | 14  | 300-008 | Pot               | 1         |
| 6   | 100-261  | 12 Pin switch                       | 1         | 15  | 300-006 | Circuit board     | 1         |
| 7   | 100-264  | 9 Pin switch                        | 2         |     |         |                   |           |
| 8   | 300-004A | Lid                                 | 1         | 16  | 100-311 | 6-32 x 3/16 screw | 4         |
| 9   | 100-262  | Push button switch                  | 2         | 17  | 100-304 | 4-40 x 3/16 screw | 2         |
| 10  | 100-263  | Knob                                | 1         | 18  | 300-009 | Rubber grommet    | 1         |
|     |          |                                     |           | 19  | 100-268 | 10 ft. cord       | 1         |

# 00300 REMOTE CONTROL BOX

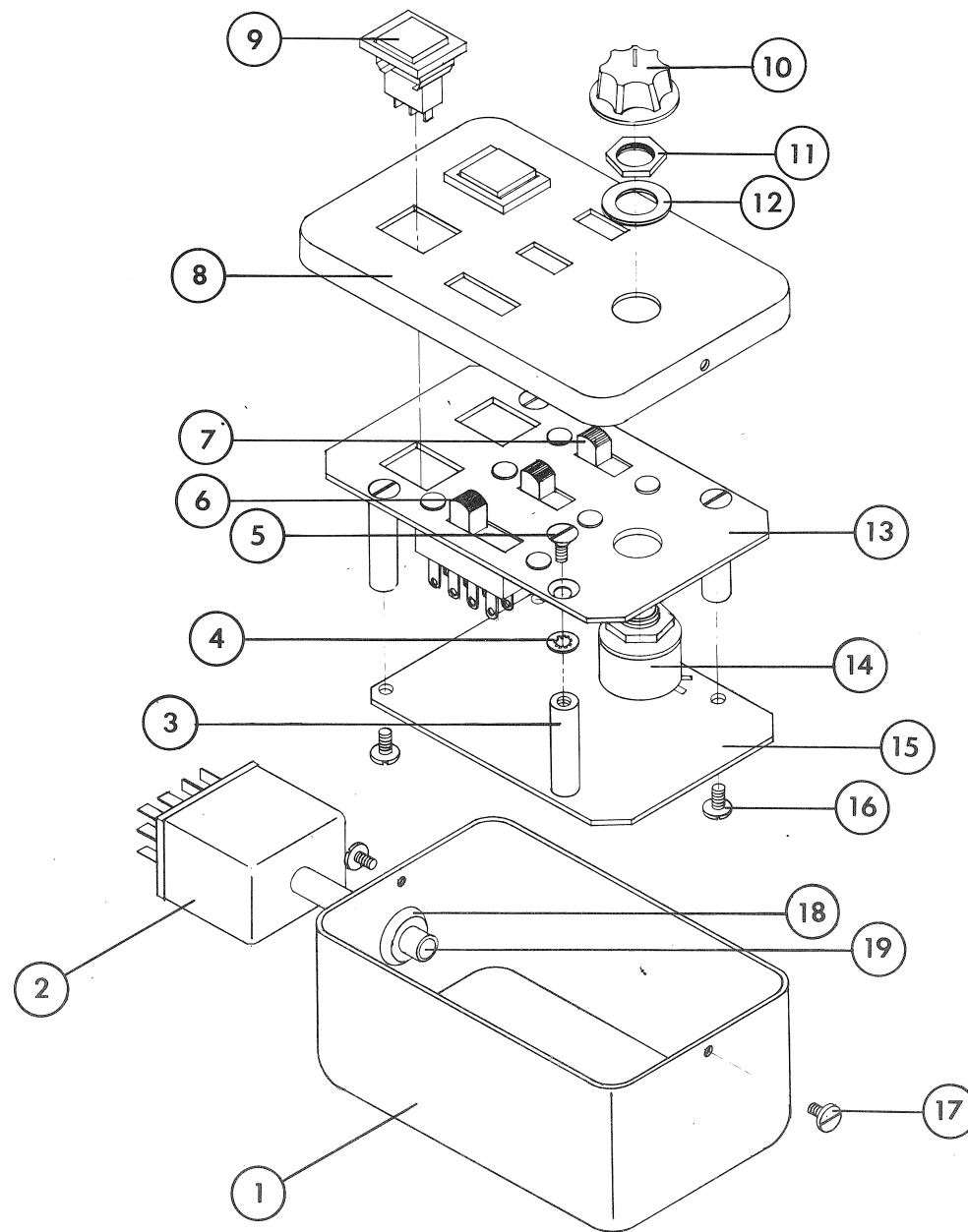
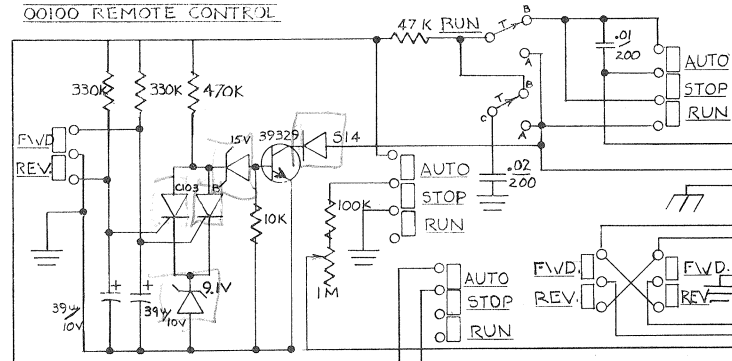


FIGURE 22

DWG. NO.

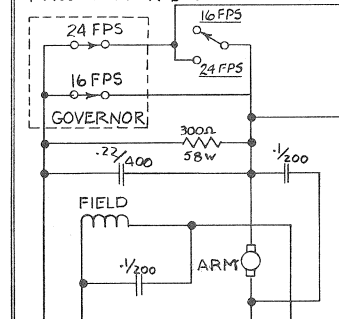
HOLE SCHEDULE

## 00100 REMOTE CONTROL



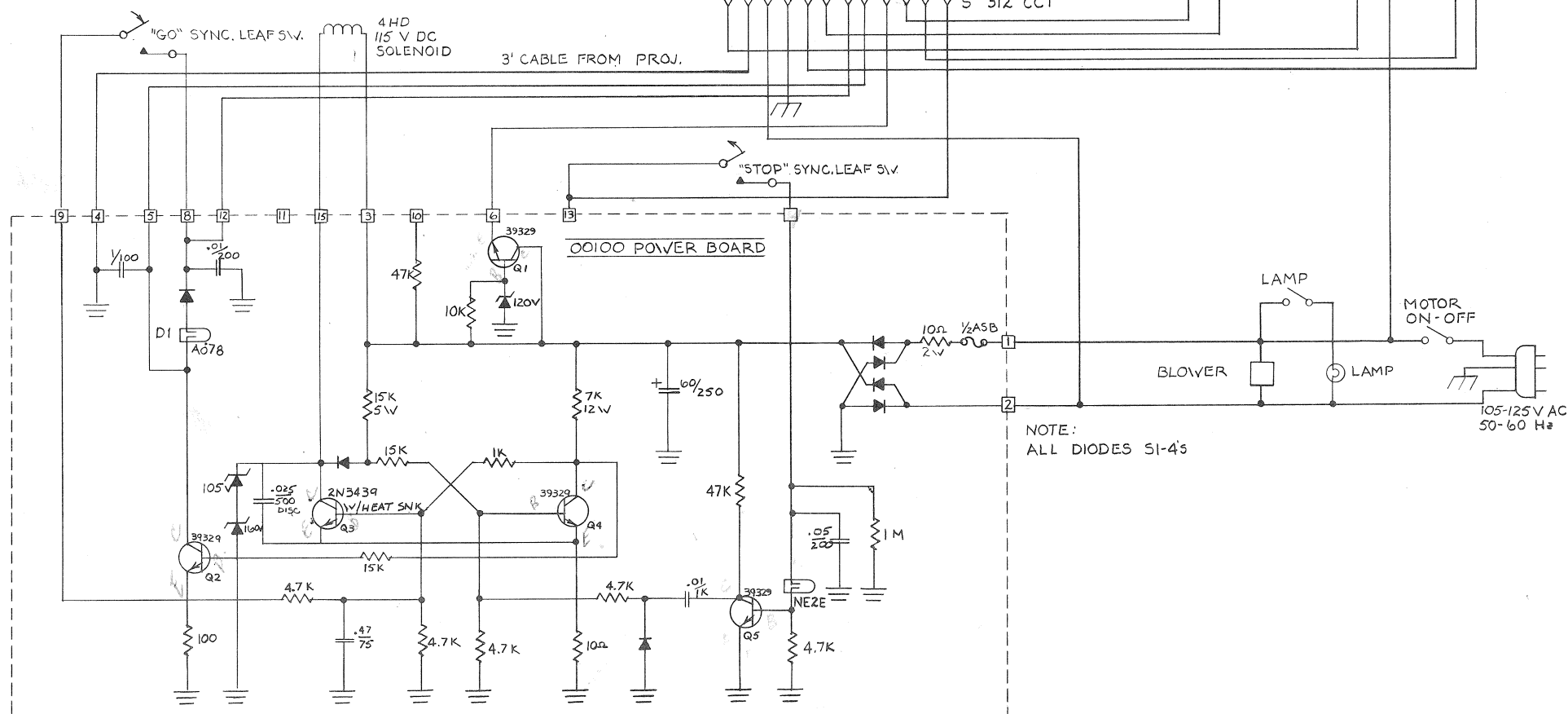
12' CABLE TO REMOTE

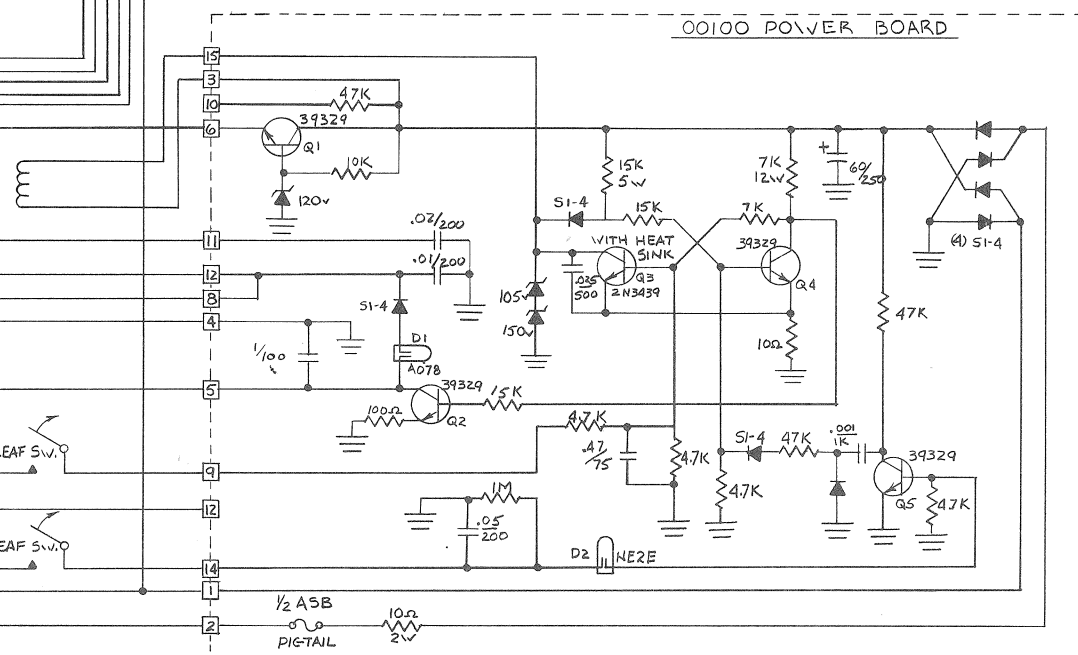
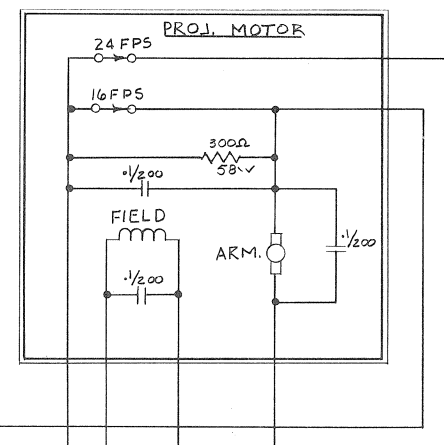
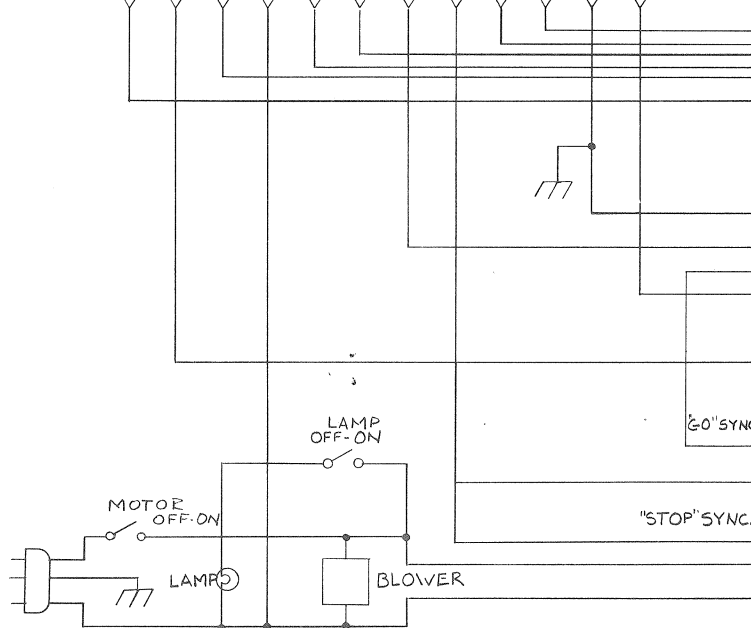
## PROJ. MOTOR &amp; SPEED CONTROL



3' CABLE FROM PROJ.

## 00100 POWER BOARD

NOTE:  
ALL DIODES 51-4's



COMPREHENSIVE PARTS LIST FOR  
LAFAYETTE ANALYZER SYSTEMS

| <u>Order No.</u> | <u>Part Name</u>         | <u>Price</u> |
|------------------|--------------------------|--------------|
| 100-001          | Solenoid plunger         | \$ 2.75      |
| 100-002          | Solenoid stop            | 4.20         |
| 100-003          | Solenoid                 | 14.95        |
| 100-004          | Bearing housing          | 6.50         |
| 100-007          | Drive shaft              | 1.50         |
| 100-010          | Drive shaft              | 5.75         |
| 100-012          | Shutter                  | 13.00        |
| 100-013          | Shutter hub              | 4.25         |
| 100-014          | Claw cam assembly        | 25.00        |
| 100-017          | Driver                   | 6.50         |
| 100-019          | Bearing hub assembly     | 3.20         |
| 100-020          | Clutch facing            | .20          |
| 100-021          | Compression spring       | .40          |
| 100-022          | Nylon thrust washer      | .45          |
| 100-023          | Isolation stud           | 5.00         |
| 100-025          | Worm carrier             | 4.20         |
| 100-027          | Shock absorbing spring   | 1.05         |
| 100-028          | Worm                     | 19.90        |
| 100-029          | Thrust washer            | .40          |
| 100-030          | Thrust bearing           | 1.25         |
| 100-031          | Isolation stud holder    | 4.95         |
| 100-032          | Leaf switch rod          | 2.75         |
| 100-033          | Leaf switch rod bracket  | 2.00         |
| 100-034          | Leaf switch clamp        | 3.25         |
| 100-035          | Leaf switch              | 1.25         |
| 100-036          | Film roll                | .65          |
| 100-037          | Tygon tube               | 1.25         |
| 100-038          | Air reducer              | 2.55         |
| 100-040          | Air nozzle               | 11.50        |
| 100-043          | Air deflector            | .75          |
| 100-045          | Heat deflector           | 1.95         |
| 100-047          | Rear heat filter         | 2.95         |
| 100-048          | Front heat filter        | 3.50         |
| 100-051          | Condenser screen         | .35          |
| 100-052          | Speed control plate      | 1.75         |
| 100-053          | Solenoid back stop screw | .95          |
| 100-054          | Information panel        | 2.75         |
| 100-055          | Emblem plate             | 2.10         |
| 100-056          | Chimney                  | 21.00        |
| 100-057          | Casting                  | 153.00       |
| 100-058          | Solenoid housing cover   | 18.00        |
| 100-059          | Remote control box       | 15.50        |
| 100-060          | Back-up plate            | 1.80         |

|          |                                      |         |
|----------|--------------------------------------|---------|
| 100-061  | Blower housing                       | \$55.00 |
| 100-063  | Shutter spacer                       | 3.50    |
| 100-064  | Drive insert set                     | 4.50    |
| 100-067  | Upper arm gear                       | 1.50    |
| 100-069  | Upper arm cover                      | 1.80    |
| 100-071  | Storage compartment                  |         |
|          | information plate                    | 1.50    |
| 100-073  | Aperture plate                       | 13.00   |
| 100-074  | Case                                 | 69.00   |
| 100-074A | Front lid                            | 27.00   |
| 100-074B | Storage compartment lid              | 21.00   |
| 100-075  | Gate Adjustment knob                 | 1.05    |
| 100-077  | Gack cover                           | 5.10    |
| 100-079  | Drive motor mounting bracket         | 4.00    |
| 100-081  | Bottom blower motor mounting bracket | 1.95    |
| 100-082  | Upper blower motor mounting bracket  | 1.75    |
| 100-083  | Drive pulley                         | 13.50   |
| 100-084  | Top mounting bracket                 | 1.80    |
| 100-085  | Side mounting bracket                | 2.75    |
| 100-088  | Strap hinge                          | 4.80    |
| 100-092  | Brush mounting block                 | 4.75    |
| 100-093  | Roller                               | .95     |
| 100-094  | Chain roller shaft                   | 3.00    |
| 100-095  | Flange                               | .75     |
| 100-096  | Elevation handle                     | 2.10    |
| 100-097  | Elevation shaft                      | 2.90    |
| 100-098  | Elevation bracket                    | 2.50    |
| 100-099  | Spacer                               | 2.75    |
| 100-101  | Lafayette spot                       | .75     |
| 100-102  | Elevation rod assembly               | 4.00    |
| 100-104  | Governor                             | 19.50   |
| 100-105  | Stop pin                             | .20     |
| 100-106  | Elevation cam                        | 3.25    |
| 100-107  | Spring spacer                        | .60     |
| 100-109  | Locking pin                          | .95     |
| 100-110  | Motor mounting spacer                | 1.50    |
| 100-111  | Back round panel                     | 2.80    |
| 100-113  | Slide panel                          | 3.25    |
| 100-118  | Control plate                        | 1.95    |
| 100-119  | Circuit board bracket spacer         | 1.40    |
| 100-125  | Brush mounting block spacer          | .50     |
| 100-126  | Drive motor                          | 69.50   |
| 100-127  | Blower motor                         | 24.00   |
| 100-128  | Air reducer mounting bracket         | .25     |
| 100-129  | Long rubber foot                     | .10     |
| 100-130  | Short rubber foot                    | .15     |
| 100-131  | Elevation spring                     | 1.35    |
| 100-132  | Rubber grommet                       | .10     |

|         |                                                          |        |
|---------|----------------------------------------------------------|--------|
| 100-133 | Case grommet                                             | \$ .08 |
| 100-134 | Gear tension spring                                      | .60    |
| 100-135 | Vent screen                                              | 1.20   |
| 100-136 | Post spacer                                              | .50    |
| 100-137 | Bottom solenoid bracket                                  | 2.75   |
| 100-139 | Leaf switch block                                        | 3.15   |
| 100-140 | Threaded stud                                            | .75    |
| 100-150 | Lamphouse cover (121497)                                 | 22.50  |
| 100-151 | Lamphouse cover screw (143179)                           | 3.10   |
| 100-152 | Upper chain (125186)                                     | 2.10   |
| 100-153 | Sleeve (120445)                                          | .21    |
| 100-154 | Lower chain (125187)                                     | 3.25   |
| 100-155 | Roller (125183)                                          | 1.40   |
| 100-156 | Ring (120453)                                            | .15    |
| 100-158 | Rubber belt (166002)                                     | 4.90   |
| 100-159 | Blower fan (129545)                                      | 9.50   |
| 100-160 | Cover plate (117047)                                     | 1.75   |
| 100-161 | Solenoid housing stand off<br>(125090)                   | 1.50   |
| 100-162 | Insert (125086)                                          | .75    |
| 100-163 | Worm gear assembly (125073)                              | 3.75   |
| 100-164 | Ball bearing (057032)                                    | .25    |
| 100-165 | Upper sprocket (125110)                                  | 1.75   |
| 100-166 | Wave washer (125092)                                     | .50    |
| 100-167 | "C" Ring (123971)                                        | .20    |
| 100-168 | Nylon pressure plate (125188)                            | 1.20   |
| 100-169 | Steel pressure plate (125075)                            | .40    |
| 100-170 | Lower sprocket (125127)                                  | 1.95   |
| 100-171 | Claw lift spring (127868)                                | .75    |
| 100-172 | Lamp socket assembly (145170,<br>151408, 117562, 071638) | 15.00  |
| 100-173 | Spring washer (142849)                                   | .25    |
| 100-174 | Plunger spring (120490)                                  | .55    |
| 100-175 | Claw arm assembly (145264)                               | 23.00  |
| 100-176 | Claw return spring (125104)                              | .48    |
| 100-177 | Retainer spring (162403)                                 | 1.65   |
| 100-178 | Small felt pad (139481)                                  | .24    |
| 100-179 | 1/8" ball bearing (012177)                               | .20    |
| 100-180 | 3/16" ball bearing (007514)                              | .20    |
| 100-181 | Eccentric (117547)                                       | .75    |
| 100-182 | Brass washer (164232)                                    | .75    |
| 100-183 | Large felt pad (139480)                                  | .48    |
| 100-184 | Spacer (117549)                                          | .75    |
| 100-185 | Plate (117543)                                           | 5.50   |
| 100-186 | Lever (123866)                                           | 2.00   |
| 100-187 | Pivot (117548)                                           | .50    |
| 100-188 | Framing shaft (143168)                                   | 8.00   |
| 100-189 | Framing shaft spring (143169)                            | .75    |
| 100-190 | "E" Ring (120447)                                        | .20    |
| 100-191 | Drive sprocket (125106)                                  | 3.25   |

|         |                                              |         |
|---------|----------------------------------------------|---------|
| 100-192 | Supply arm housing (125122)                  | \$29.00 |
| 100-193 | Arm insert (125115)                          | .48     |
| 100-194 | Drive gear (125076)                          | .48     |
| 100-195 | 3/16" ring (109364)                          | .24     |
| 100-196 | Gear (125085)                                | .48     |
| 100-197 | 3/8-16 hexnut (139676)                       | 1.20    |
| 100-198 | Wave washer (139675)                         | .48     |
| 100-199 | Nylon washer (123393)                        | .48     |
| 100-200 | Plate (125118)                               | .75     |
| 100-201 | Spindle gear (125079)                        | 1.20    |
| 100-202 | Cork washer (125111)                         | .45     |
| 100-203 | Spindle assembly (125126,<br>125166, 073514) | 2.50    |
| 100-204 | Take-up arm housing (125125)                 | 27.00   |
| 100-205 | Take-up arm cover (125114)                   | 1.75    |
| 100-206 | Upper film guide plate (120209)              | 2.50    |
| 100-207 | Lamp adjust screw (142850)                   | .48     |
| 100-208 | Lower film guide plate (123869)              | 3.75    |
| 100-210 | Reflector (083373)                           | 2.75    |
| 100-211 | Spring clip (158638)                         | .75     |
| 100-212 | Rear lens (013775)                           | 8.50    |
| 100-213 | Condenser spring (117165)                    | 1.50    |
| 100-214 | Front lens (802797)                          | 25.00   |
| 100-215 | Condenser body assembly<br>(125534)          | 42.00   |
| 100-216 | Lower casting half (125836)                  | 42.00   |
| 100-217 | Roller plate (121507)                        | 5.50    |
| 100-218 | Nylon Ball (125789)                          | .48     |
| 100-219 | Film roller (171467)                         | 1.60    |
| 100-220 | Compression spring (120486)                  | .48     |
| 100-221 | Sprocket plate (125128)                      | 2.40    |
| 100-222 | Sprocket (120477)                            | 3.25    |
| 100-223 | Sprocket hub (125129)                        | 8.25    |
| 100-224 | Upper plate (125773)                         | 7.95    |
| 100-225 | Pressure spring (117762)                     | .42     |
| 100-226 | "E" Ring (120453)                            | .12     |
| 100-227 | Sleeve (120487)                              | 1.60    |
| 100-228 | Lower plate (125774)                         | 10.50   |
| 100-229 | Nylon roller (125176)                        | 3.25    |
| 100-230 | Gate assembly (166488)                       | 21.00   |
| 100-231 | Catch (129458)                               | 1.75    |
| 100-232 | Ball spring (129457)                         | .65     |
| 100-233 | Nylon ball (125789)                          | .48     |
| 100-234 | Gate Spring (129415)                         | 1.60    |
| 100-235 | Post (129414)                                | 3.25    |
| 100-236 | Filter clip (125191)                         | 1.75    |
| 100-237 | Projection lens                              | 55.00   |
| 100-238 | Resistor (125839)                            |         |
| 100-239 | Capacitor (125830)                           |         |
| 100-250 | Toggle switch (129390)                       | 1.75    |
| 100-251 | Socket (211196)                              | 2.10    |
| 100-252 | Speed switch                                 | 1.75    |

|          |                              |        |
|----------|------------------------------|--------|
| 100-253  | Rubber foot                  | \$ .30 |
| 100-254  | Two piece hinge              | 1.00   |
| 100-255  | Two piece latch              | 1.00   |
| 100-256  | Two piece handle             | 3.75   |
| 100-257  | Governor brush               | 7.50   |
| 100-258  | Motor brush                  | 7.50   |
| 100-259  | Motor brush cap              | 3.00   |
| 100-260  | 12 pin plug and socket       | 3.25   |
| 100-261  | 12 pin switch                | 3.25   |
| 100-262  | Push button switch           | 7.50   |
| 100-263  | Knob                         | 1.75   |
| 100-264  | 9 pin switch                 | 1.95   |
| 100-265  | Pot                          | 3.25   |
| 100-266  | Remote control citcuit board | 36.25  |
| 100-267  | Plastic grommel              | .15    |
| 100-     | TOTAL REMOTE CONTROL         | 75.00  |
| 100-270  | Circuit board bracket        | 1.25   |
| 200-001  | Speed control plate          | 1.75   |
| 200-002  | Counter base                 | 18.00  |
| 200-003  | Counter                      | 29.00  |
| 200-004  | Chain                        | 3.25   |
| 200-005  | Chain guard                  | 3.75   |
| 200-006  | Sprocket hub                 | 4.50   |
| 200-008  | Counter sprocket             | 4.50   |
| 300-004  | Remote control box           | 15.00  |
| 300-004A | Remote control lid           | 3.50   |
| 300-005  | Back-up plate                | 1.75   |
| 300-006  | Remote control circuit board | 52.00  |
| 300-007  | Standoff                     | .20    |
| 300-008  | Rotary switch                | 1.95   |
| 300-009  | Rubber grommet               | .15    |
| 100-300  | #2-56 x 1/8 Phillips head    | .10    |
| 100-301  | #2-56 x 3/16 Phillips head   | .10    |
| 100-302  | #4-40 x 5/16 Hex head        | .10    |
| 100-303  | #4-40 x 1/8 Phillips head    | .10    |
| 100-304  | #4-40 x 3/16 Binder head     | .10    |
| 100-305  | #4-40 x 5/16 binder head     | .10    |
| 100-306  | #4-40 x 3/8 phillips head    | .10    |
| 100-307  | #4-40 x 1/2 binder head      | .10    |
| 100-308  | #4-40 x 7/8 binder head      | .10    |
| 100-309  | #4-40 x 1 1/4 binder head    | .10    |
| 100-310  | #4-40 x 3/16 flat head       | .10    |
| 100-311  | #6-32 x 3/16 binder head     | .10    |
| 100-312  | #6-32 x 1/4 binder head      | .10    |
| 100-313  | #6-32 x 3/8 binder head      | .10    |
| 100-314  | #6-32 x 1/2 binder head      | .10    |

|         |                                 |        |
|---------|---------------------------------|--------|
| 100-315 | #6-32 x 5/8 binder head         | \$ .10 |
| 100-316 | #6-32 x 3/4 binder head         | .10    |
| 100-317 | #6-32 x 1 1/4 binder head       | .10    |
| 100-318 | #6-32 x 2 binder head           | .10    |
| 100-319 | #4-40 x 3/16 phillips head      | .10    |
| 100-320 | #6-32 x 1/2 shoulder screw      | .10    |
| 100-321 | #6-32 x 5/8 shoulder screw      | .10    |
| 100-322 | #6-32 x 3/16 undercut flat head | .10    |
| 100-323 | #8-32 x 1/2 flathead            | .10    |
| 100-324 | #8-32 x 1 1/2 binder head       | .10    |
| 100-325 | #8-32 x 1/4 hex head            | .10    |
| 100-326 | #8-32 x 1/2 hex head            | .20    |
| 100-327 | #10-32 x 1/4 binder head        | .10    |
| 100-328 | #10-32 x 1/2 binder head        | .10    |
| 100-329 | #4-40 x 1/8 socket set screw    | .10    |
| 100-330 | #5-32 x 1/8 socket set screw    | .10    |
| 100-331 | #6-32 x 1/8 socket set screw    | .10    |
| 100-332 | #8-32 x 3/8 socket set screw    | .10    |
| 100-333 | #4 x 1/4 wood screw             | .10    |
| 100-334 | #4 x 3/8 wood screw             | .10    |
| 100-335 | #6 x 5/8 wood screw             | .10    |
| 100-336 | #4-40 x 5/8 hex head            | .10    |
| 100-337 | #4-40 x 5/16 phillips head      | .10    |
| 100-338 | 6-32 x 3/16 phillips head       | .10    |
| 100-339 | 6-32 x 1/4 phillips head        | .10    |
| 100-340 | 6-32 x 5/8 phillips head        | .10    |
| 100-351 | #4 x 3/16 x 1/32 washer         | .10    |
| 100-352 | #4 x 7/32 x 1/32 washer         | .10    |
| 100-353 | #4 x 1/4 x 1/32 washer          | .10    |
| 100-354 | #4 x 5/16 x 1/32 washer         | .10    |
| 100-355 | #4 internal tooth lockwasher    | .10    |
| 100-356 | #6 x 1/2 x 1/32 washer          | .10    |
| 100-357 | #6 internal tooth lockwasher    | .10    |
| 100-358 | 5/32 x 5/16 x 1/32 washer       | .10    |
| 100-359 | 3/16 x 1/4 x 1/64 washer        | .10    |
| 100-360 | 3/16 x 7/16 x 1/64 steel washer | .10    |
| 100-361 | 3/16 x 7/16 x 1/32 nylon washer | .10    |
| 100-362 | 3/16 x 3/4 x 1/32 washer        | .10    |
| 100-363 | #8 x 5/16 x 1/32 washer         | .10    |
| 100-364 | 3/8 x 5/8 x 1/64 nylon washer   | .10    |
| 100-365 | 3/8 x 5/8 x 1/32 washer         | .10    |
| 100-366 | 3/8 x 7/8 x 1/32 washer         | .10    |
| 100-367 | 3/8 internal tooth lockwasher   | .10    |
| 100-368 | #6-32 kepnut                    | .10    |
| 100-369 | #10-32 kepnut                   | .10    |
| 100-370 | 3/8-16 hexnut                   | .10    |
| 100-371 | 1/8" spring pin                 | .10    |
| 100-372 | 3/16" tru-arc ring              | .10    |
| 100-373 | 1/8" tru-arc ring               | .10    |