

Film-Tech

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XETRON / CINEMECCANICA
“TOWER” DGB
FILM TRANSPORT
INSTALLATION AND PARTS MANUAL

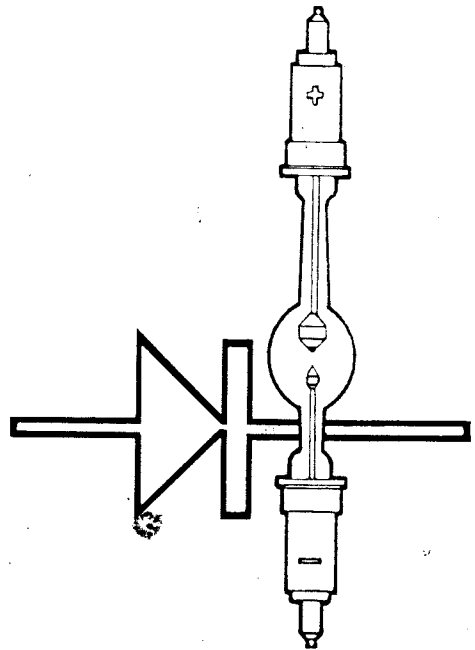
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DGB TRANSPORT

XETRON[®]

PRODUCTS



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201 - 267 - 8200

INTRODUCTION

DGB "TOWER" FILM TRANSPORT

DATE: 11/4/74

Often when a projection room is to be automated, it is desirable to install a large capacity film transport to a single projector to permit running a complete show without interruption.

If the projection room is equipped with two relatively new projectors in good running condition, they can be converted into large capacity single machine systems by adding a DGB tower film transport to each of them.

The DGB tower film transport comes in two versions depending on the presentation or operation desired.

DGB 2 x 4 TOWER FILM TRANSPORT

The DGB 2 x 4 consists of one complete 13,000 foot (140 minute) vertical film transport system. Features include rewind on the unit and weight compensated take-up. Optional features are a build-up/take down device to permit making up and taking down the presentation on the unit and automatic rewind shut off. Rewind time is 12 minutes.

DGB 4 x 4 TOWER FILM TRANSPORT

The DGB 4 x 4 consists of two complete 13,000 foot (140 minute) vertical film transports mounted back to back on a pivoting frame. One side can be showing a presentation while the other is being rewound. Standard and optional features are the same as the DGB 2 x 4. Rewind time is 12 to 25 minutes (optional) depending on the customer's needs.

BOTH SYSTEMS CAN BE AUTOMATED TO OPERATE WITH A MINIMUM OF ATTENTION

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TOWER ROTATION

26 JUNE 1975

DWG: #D248

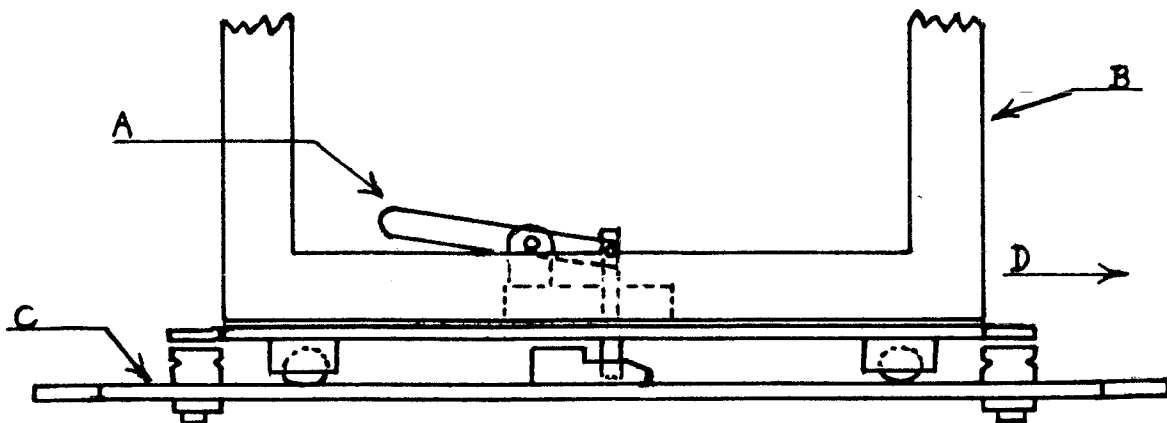
ROTATION

When Rotating Tower:

1. Film must be secure on reel.
2. Reel must be secure on spindle.

Press foot lever (A) on locking device to disengage the main frame (B) from the main base (C) plate-C.

3. Rotate 180 degrees in direction of arrow D.
4. For returning to original position reverse above position. (Foot lever will now be at opposite end).





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DGB DC TYPE TOWERS

Projection

Before Starting Projection

1. Thread system as shown in Drawings #D-241 or D-242.
2. Remove all slack between upper and lower reels and rollers.
3. Move the take-up/rewind switch to the take-up position.
4. Start projector.

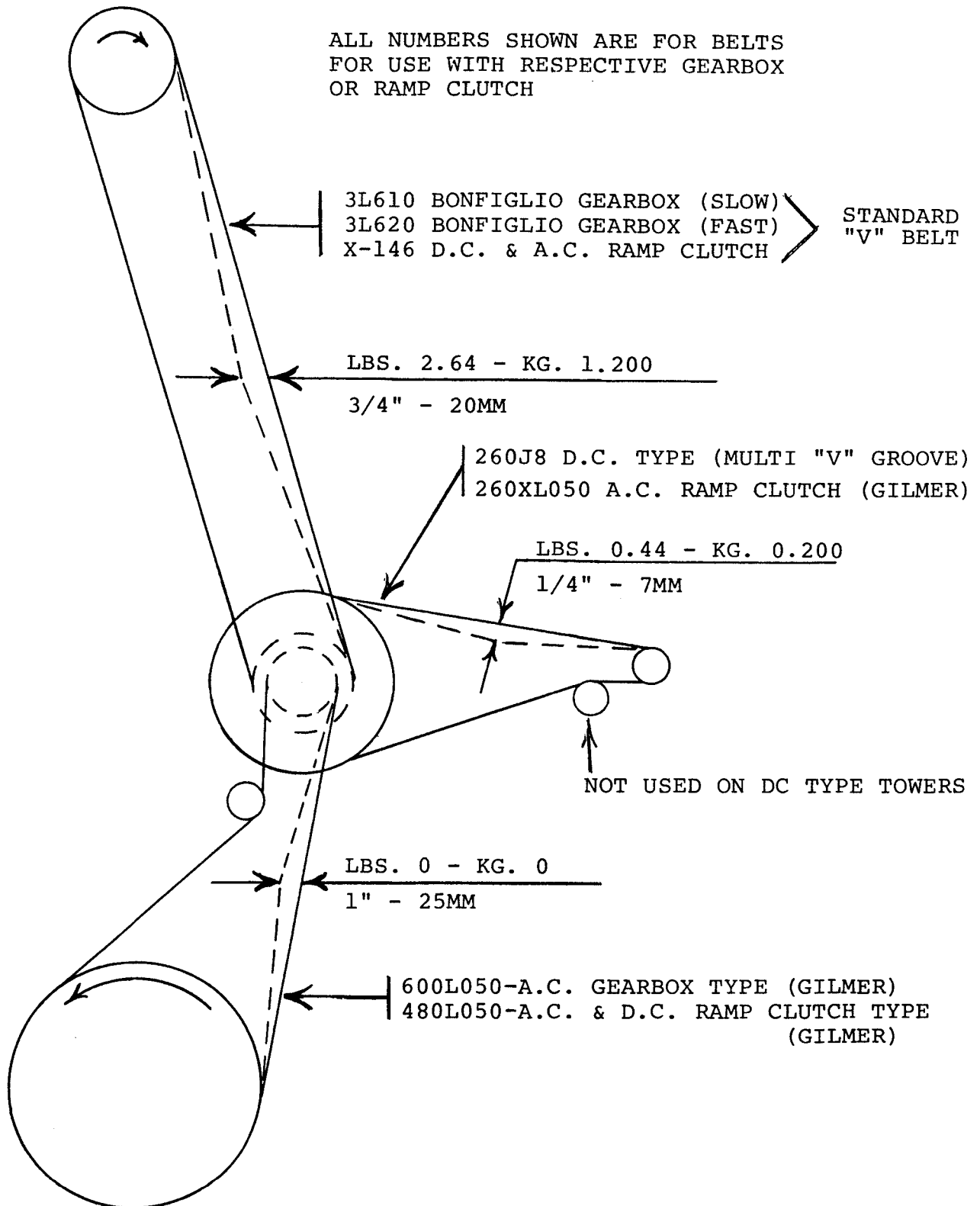
Rewinding

1. Be sure that the rewind speed switch is in the "0" or up position.
2. Thread film from lower to upper reel and remove all slack.
3. Start rewinding by moving the take-up/rewind switch to rewind and then slowly switch the rewind speed switch clockwise to Step 5.

Belt Timing

If necessary to adjust the belts proceed as follows:

1. Adjust the upper standard V belt (rewind) first. This is done by moving the main center shaft ramp clutch assembly up or down as needed.
2. Adjust Poly-V motor belt by loosening locking cap screw and moving motor through slot. This cap screw is under the motor on the pulley side.
3. Adjust Gilmer type lower take-up belt by tensioning the idler. Caution—This belt must not be too tight.



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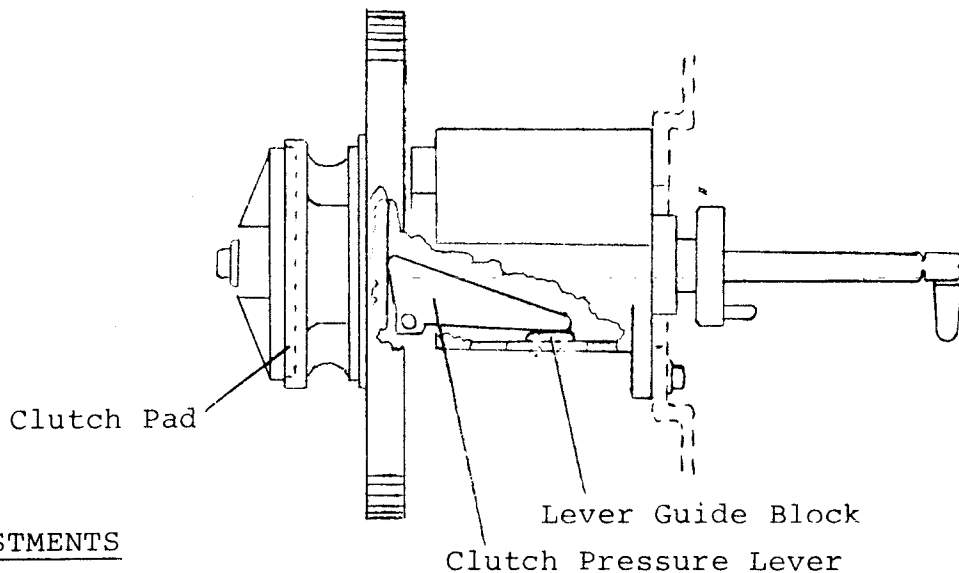
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13,000 FOOT
WEIGHT-CONTROLLED
TAKEUP

Drawing: #10150

May 1, 1971

This takeup device is designed to insure constant takeup film tension throughout the 13,000 foot reel. Since the spindle/clutch assembly floats in the main frame casting, clutch pressure is increased by the action of the clutch pressure lever as reel weight is increased. As the takeup diameter increases with the increase in weight/clutch tension, film takeup tension remains constant.



ADJUSTMENTS

1. Takeup Drive Belt.

The drive belt should be adjusted so that there is 1 " slack play when the reel is full.

2. Film Tension.

By loosening the two screws in the slot in the bottom of the main casting, the lever guide block can be moved toward or away from the drive pulley. To increase film tension, move the block (screws) away from the pulley. To decrease film tension, move the block (screws) toward the pulley.

3. Clutch Pad.

The clutch pad should be kept wet with projector oil.

4. Takeup Tension.

This tension must be within certain limits to prevent film slippage between layers of film which causes film damage.

A practical test is to draw a radial chalk line, from the full reel to the center of the hub, then by starting, stopping and braking the reel observe any change in the chalk line which would indicate film slippage. If it assumes a "staircase" or broken line, insufficient tension is being used. If a gram gauge is available, at the end of a full reel, the take-up should be pulling 700-750 grams as measured at the full diameter of the reel.

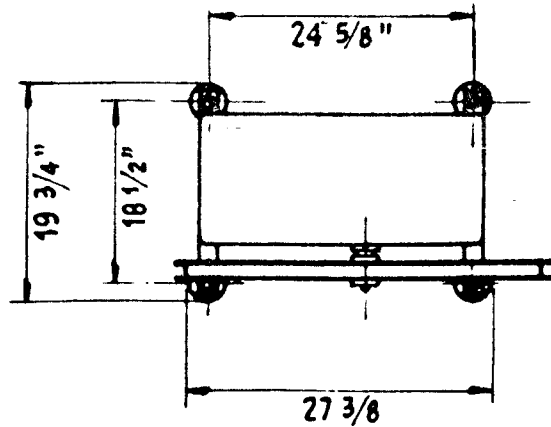
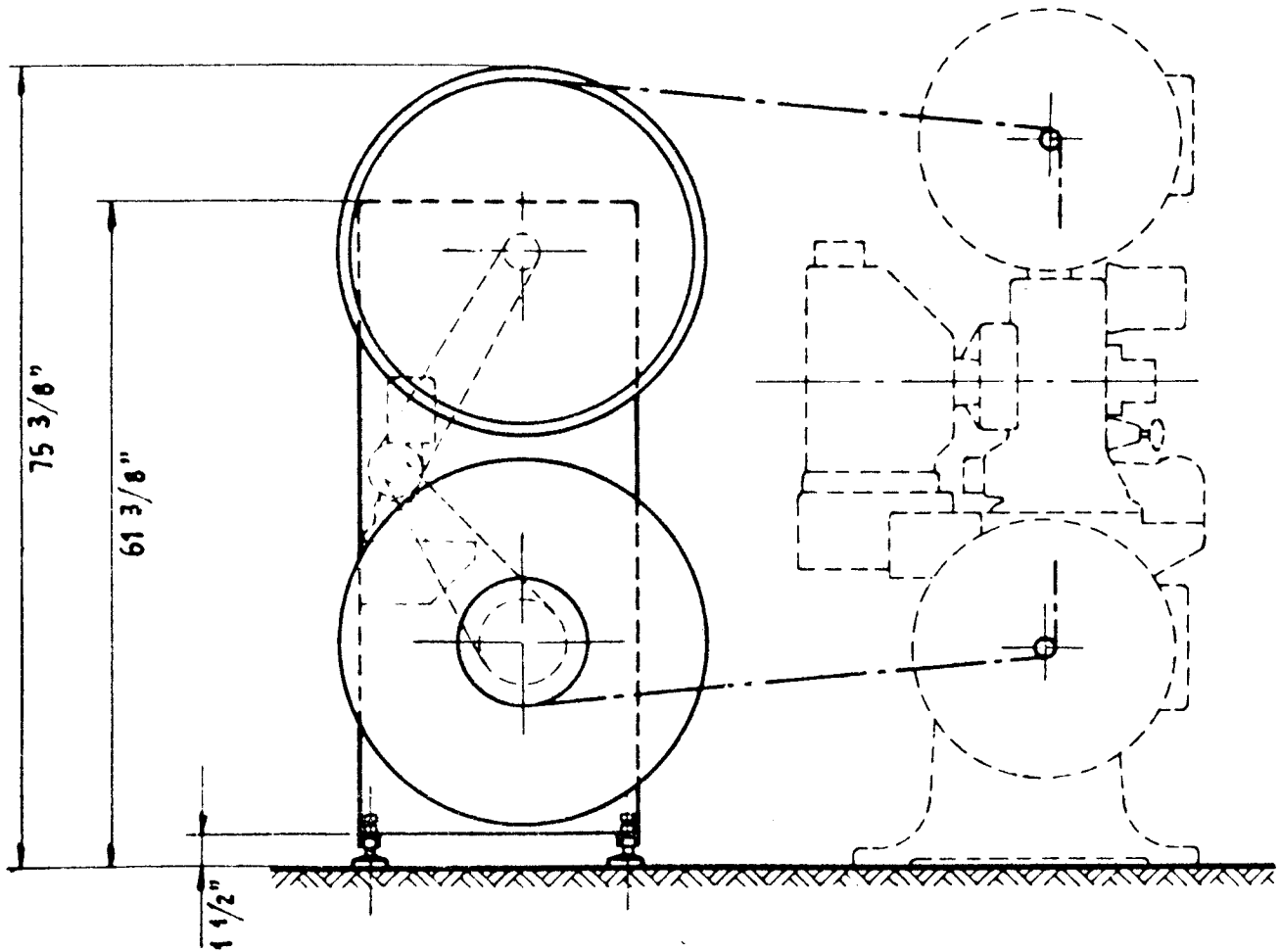
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DGB 2 x 4 TOWER
TRANSPORT DIMENSIONS

31 OCTOBER 1974

Dwg. #D-241



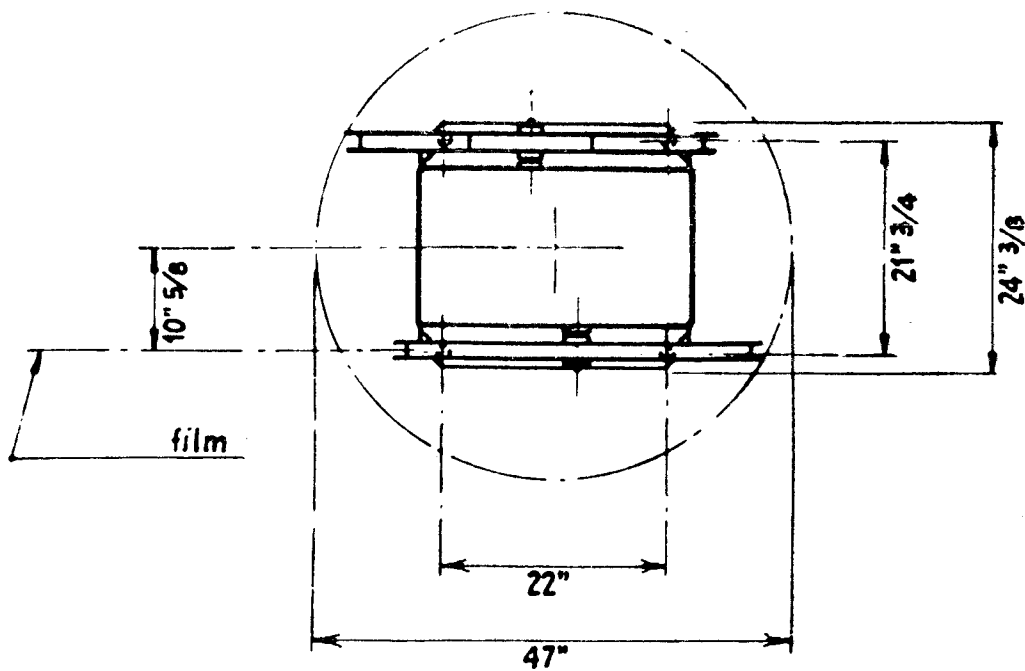
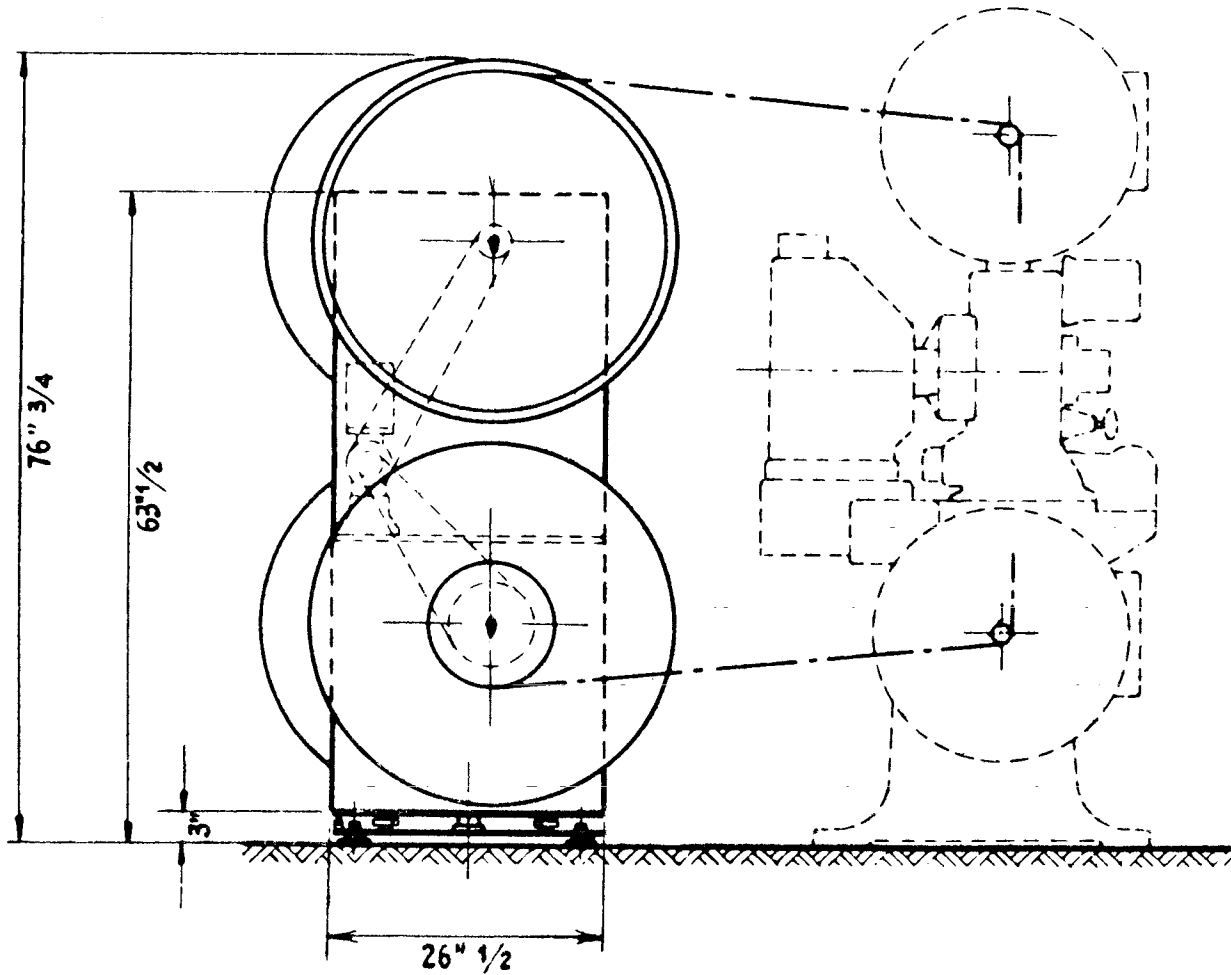
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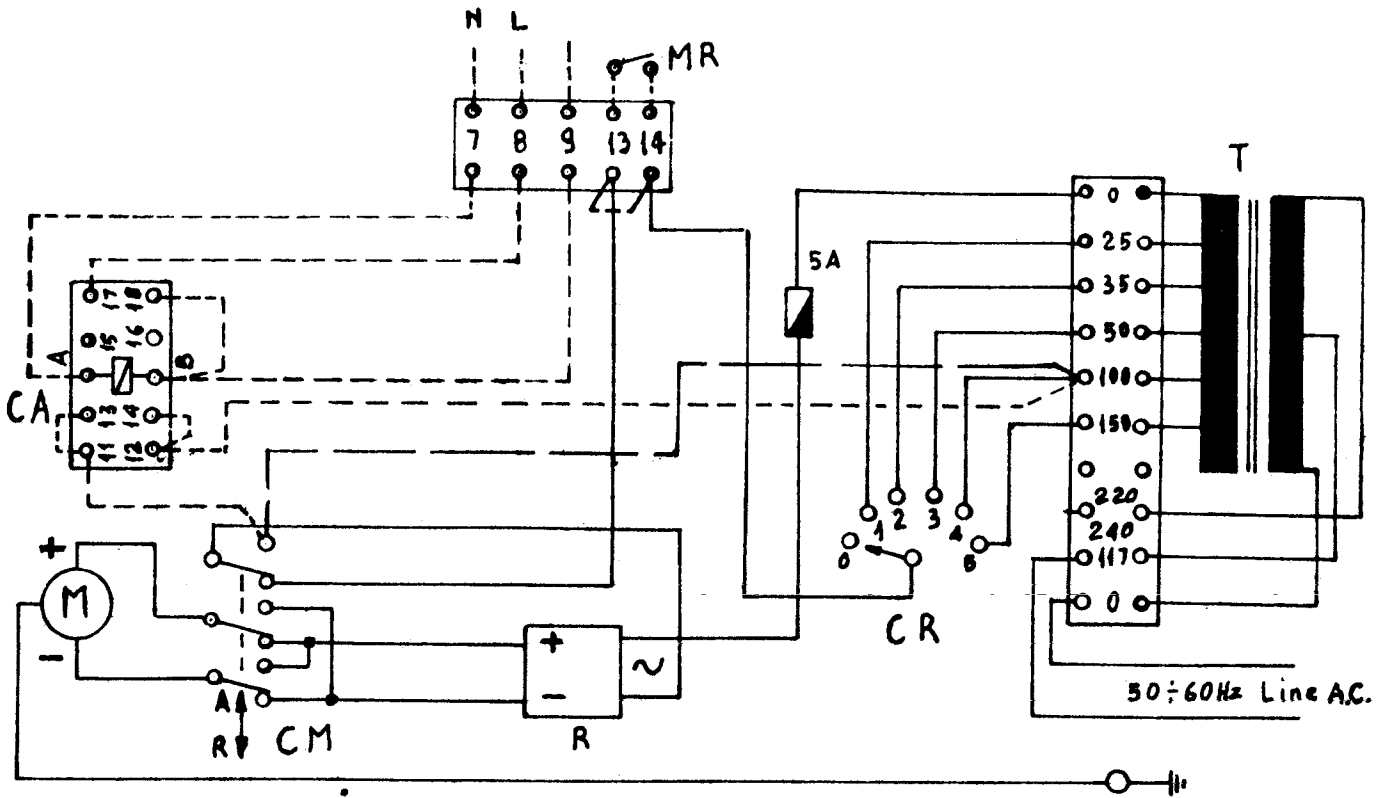
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DGB 4 x 4 TOWER
TRANSPORT DIMENSIONS

31 OCTOBER 1974

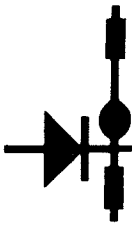
Dwg. #D-242





LEGEND

- M - DC Motor
- CM - Take-Up/Rewind Switch
- CR - Rewind Switch
- T - Transformer
- R - Rectifier
- CA - Automatic Take-Up Contactor (On Request)
- MR - Rewind Stop Microswitch (On Request)



CARBONS, INC.

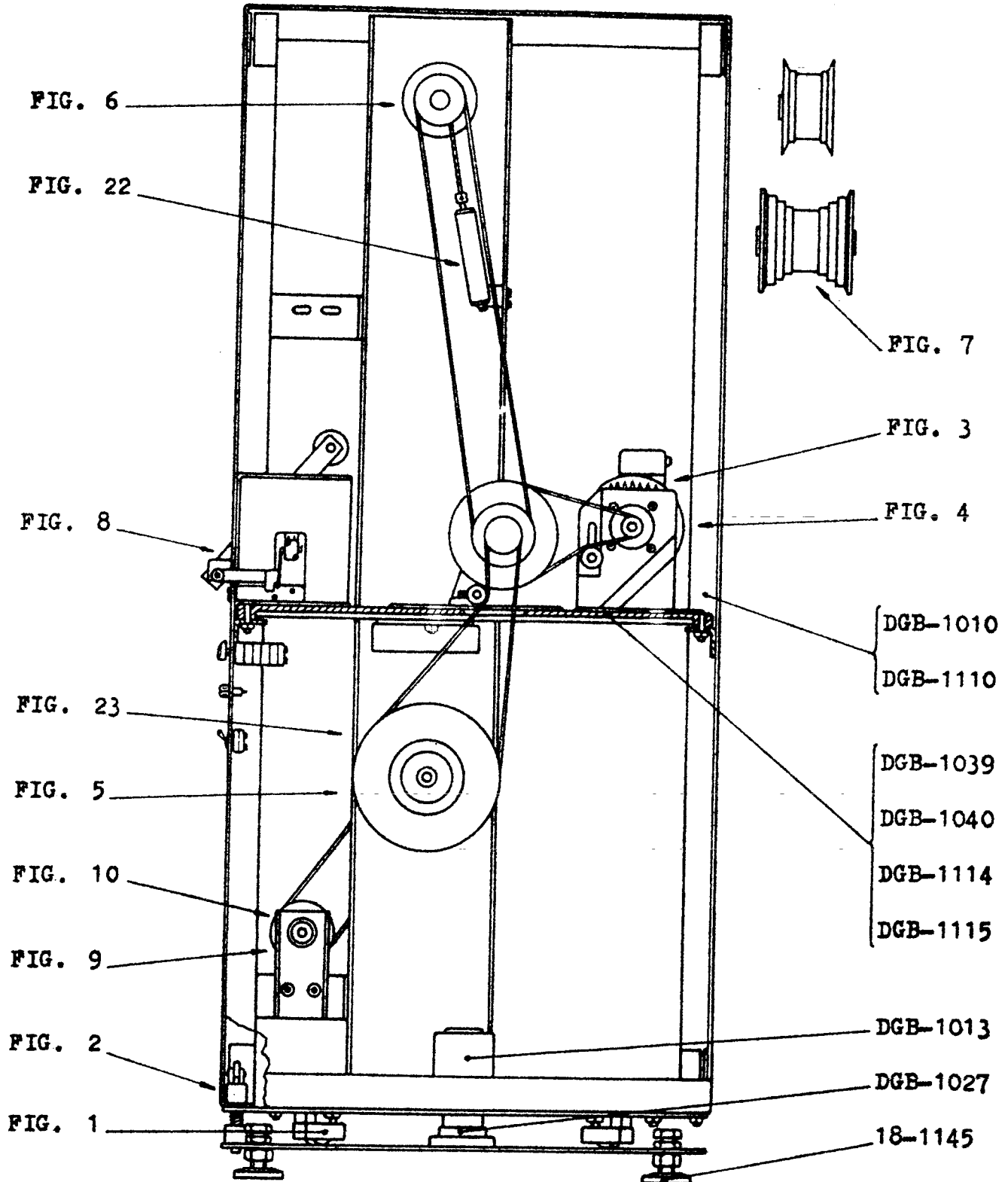
DGB

2 X 4 & 4 X 4

SPARE PARTS

MANUAL

FIG. 1	Leveling Wheel
FIG. 2	Rotation End-Run Assembly
FIG. 3	Motor & Gear Box (Up To Serial #7699)
FIG. 4	Reel Drive & Motor (From Serial #7700)
FIG. 5	Lower Weight Compensated Take-Up
FIG. 6	Upper Clutch Assembly
FIG. 7	Flanged Roller 35mm - 35/70mm
FIG. 8	Auto Rewind Shut-Off
FIG. 9	Film Make-Up/Break-Down Device - 35mm
FIG. 10	Film Make-Up/Break-Down Device - 35/70mm
FIG. 22	Upper Loop Absorber
FIG. 23	Lower Loop Absorber
DGB-1010	Rack Frame (4 x 4)
DGB-1013	Sleeve With Flange
DGB-1027	Rotating Plate Spindle
DGB-1039	Reel Drive & Motor Plate (From Serial #7700) (4 x 4)
DGB-1040	Motor & Gear Box Support (Up To Serial #7699) (4 x 4)
DGB-1110	Rack Frame (2 x 4)
DGB-1114	Reel Drive & Motor Plate (From Serial #7700) (2 x 4)
DGB-1115	Motor & Gear Box Support (Up To Serial #7699) (2 x 4)
18-1145	Pod For Leveling Screw



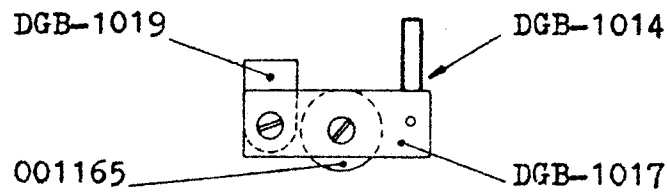


FIG. 1

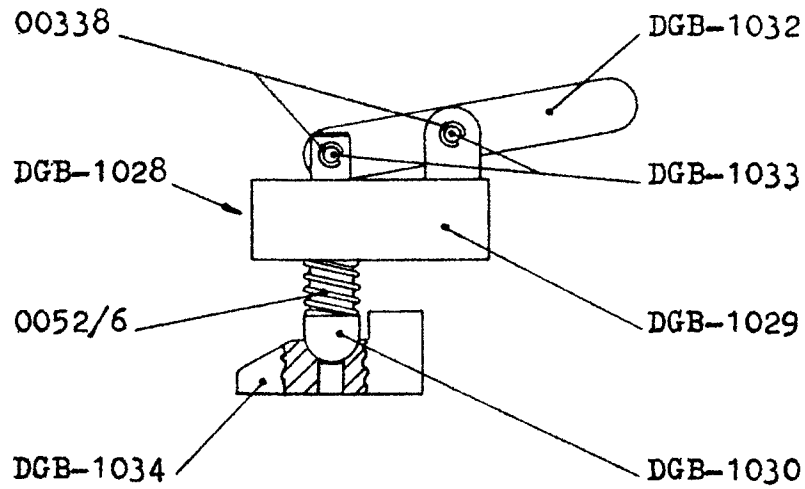


FIG. 2

FIG. 1 - LEVELING WHEEL

01165	Ball Bearing
DGB-1014	Leveling Wheel Assembly
DGB-1017	Bearing Support
DGB-1019	Hinge

FIG. 2 - ROTATION END-RUN ASSEMBLY

0052/6	Spring
00338	Ideal Washer - 6mm Diameter
DGB-1028	Rotation End-Run Assembly With Stop Block
DGB-1029	Stop Pin Support
DGB-1030	Stop Pin
DGB-1032	Lever
DGB-1033	Spindle For Pin & Lever
DGB-1034	Stop Block

FIG. 3 MOTOR & GEAR BOX (UP TO SERIAL #7699)

00291	Knob
00788	Switch
00852	Ball Bearing
00876	Ball Bearing
DGB-2010	Motor & Gear Box 50Hz, Less Shaft Assembly, Pulleys & Knob
DGB-2011	Motor & Gear Box 60Hz, Less Shaft Assembly, Pulleys & Knob
DGB-2012	Gear Box, 1:14 Ratio, With Gear & Flange, Less: Motor & Shaft Assembly With Pulley, Knob
DGB-2044	Switch Support Plate
DGB-2100	Motor & Gear Box With Shaft Assembly, Pulleys & Knob (Frequency & Pulley Diameter To Be Advised)
DGB-2149	"V" Belt Type UNIX153
18-3808m	Motor With Flange - 50Hz
18-3808p	Motor With Flange - 60Hz
18-3809	Shaft For Motor & Gear Box
18-3817	27 Tooth Driving Pulley
18-3822	Plunger
18-3823	Plunger Spring
18-3826	Spindle For Toothed Pulley Stop
18-3827	Spring For Stop Spindle
18-3830	Sliding Flange Plate
18-3831	Circlip Ring
18-3832	"V" Belt Pulley (130mm Diameter Fast Type)
18-3833	Outside Spacer
18-3834	Intermediate Spacer
18-3835	"V" Belt Pulley (99mm Diameter Slow Type)
18-3840	Coupling Shaft
18-3841	Coupling Shaft Spring
18-3842	5/32" Diameter Ball
18-3845	Washer
18-3852a	Switch Support
18-4784	Toothed Belt Type 600 L 050
20-3653	Circlip Type UNI 3653 - 20mm Diameter

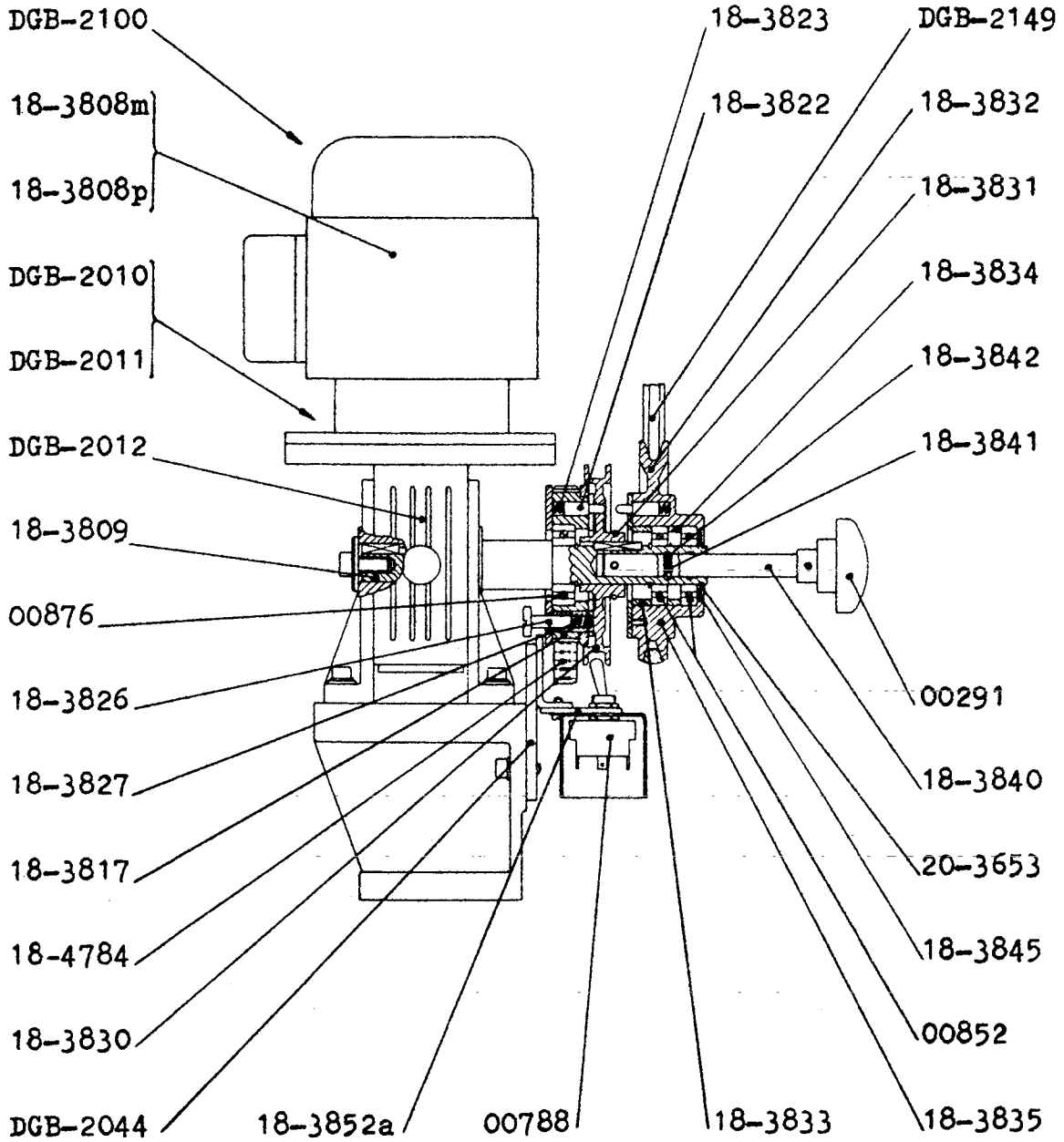


FIG. 3

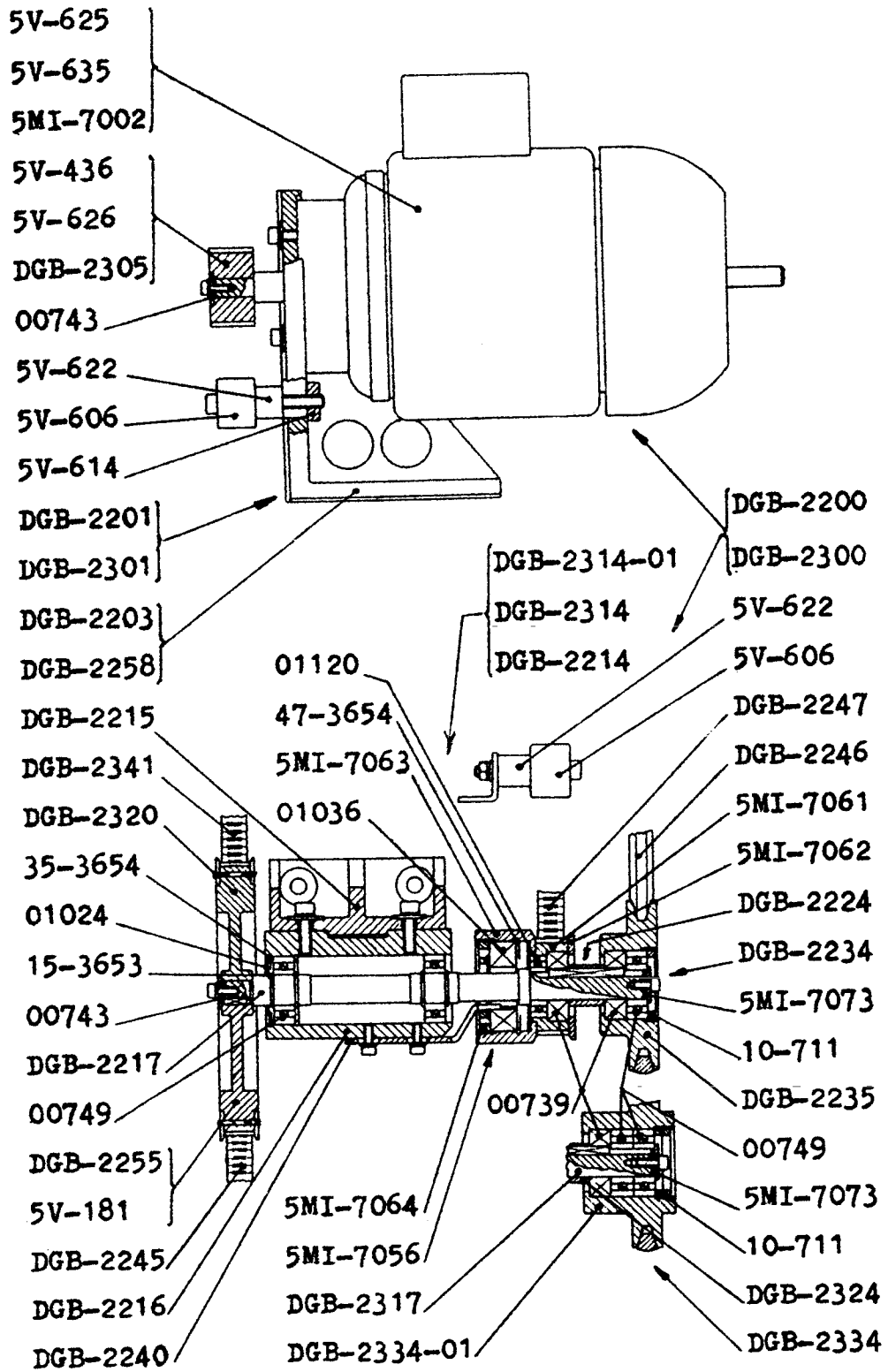


FIG. 4

00739	One-Way Clutch
00743	Washer
00749	Ball Bearing
01024	35mm Diameter Spacing Ring
01036	One-Way Clutch
01120	Ball Bearing
DGB-2200	Reel Drive & Motor (From Serial #7700)
DGB-2201	Motor Bracket Assembly (From Serial #7700)
DGB-2203	Motor Bracket
DGB-2214	Intermediate Spindle Assembly Support (From Serial #7700)
DGB-2215	Bracket For Intermediate Spindle Pulley (Machined Casting)
DGB-2216	Intermediate Spindle Support (Machined Casting)
DGB-2217	Intermediate Spindle (From Serial #7700)
DGB-2224	Spacer (From Serial #7700)
DGB-2234	Upper Reel Drive Pulley Assembly (From Serial #7700)
DGB-2235	Upper Reel Drive Pulley (From Serial #7700)
DGB-2240	Belt Stop Rod
DGB-2245	Motor Belt Type 260 XL 050 (From Serial #7700)
DGB-2246	"V" Belt Type UNIX153
DGB-2247	Lower Clutch Belt Type 480 L 050
DGB-2255	Drive Pulley - 104 Teeth (60Hz)
DGB-2258	Motor Bracket (60Hz)
DGB-2300	Reel Drive & Motor (From Serial #7828)
DGB-2301	Motor Bracket (From Serial #7828)
DGB-2305	Motor Pinion - 12 Teeth (From Serial #7828)
DGB-2314	Intermediate Spindle Assembly Support (From Serial #7828)
DGB-2314-01	Intermediate Spindle Assembly Support (From Serial #7841)
DGB-2317	Intermediate Spindle (From Serial #7841)
DGB-2320	44 Tooth Pulley (From Serial #7828)
DGB-2324	Spacer (From Serial #7841)
DGB-2334	Upper Reel Drive Pulley Assembly (From Serial #7841)
DGB-2334-01	Upper Reel Drive Pulley
DGB-2341	Motor Belt Type 255 L 050 (From Serial #7828)
10-711	Locking Ring
5V-181	94 Tooth Pulley (From Serial #7700)
5V-436	13 Tooth Pulley For 60Hz Motor
5V-440	Belt Idler Complete With Bearings
5V-614	Locking Washer
5V-622	Belt Idler Spindle
5V-625	4-Pole Motor - 50Hz (From Serial #7700)
5V-626	15 Tooth Pinion (From Serial #7700)
5V-635	Motor - 60Hz
5MI-7002	8-Pole Motor - 50Hz (From Serial #7828)
5MI-7056	Take-Up Drive Pulley Assembly
5MI-7061	Take-Up Drive Pulley
5MI-7062	Pulley Washer
5MI-7063	One-Way Clutch Support
5MI-7064	One-Way Clutch Locking Ring
5MI-7073	Washer
15-3653	Circlip - 15mm Diameter
35-3654	Circlip - 35mm Diameter
47-3654	Circlip - 47mm Diameter

FIG. 5 - LOWER WEIGHT COMPENSATED TAKE-UP

0048	Spool Latch Locking Pin
0049	Spring For Spool Latch
00733	Oblique Ball Bearing
00834	Axial Ball Bearing
00835	Ball Bearing
00913	Lower Weight Compensated Take-Up Less Pulley (35mm)
00915	Lower Weight Compensated Take-Up Less Pulley (35/70mm)
00930	Clutch Felt
00956	Intermediate Spool Latch
00957	Front Spool Latch
00964	Loop Absorber Assembly (See Fig. 23)
00968	Spindle With Spool Latch & Drive Pin For 35mm
00970	Spacer Washer
00973	Spool Spindle Support (Machined Casting)
00980	Clutch Pressure Lever (Machined Casting)
00981	Lever Thrust Block
00998	Spindle With Double Spool Latch & Drive Pin For 35/70mm
DGB-3000	Lower Weight Compensated Take-Up Assembly (Please Advise If It Is To Be Used For 35mm or 35/70mm)
18-4788	71 Tooth Pulley - 50Hz - 60Hz
18-4794	67 Tooth Pulley - 60Hz (Up To Serial #7699)

FIG. 6 - UPPER CLUTCH ASSEMBLY

0048	Spool Latch Locking Pin
0049	Spring For Spool Latch
00520	Clutch Spring
00722	Ball Bearing
00930	Clutch Felt
00932	Spring Adjusting Knob
00933	Clutch Support (Machined Casting)
00934	Loop Absorber Clutch Disc
00935	Washer
00936	Clutch Disc Bush
00937	Spindle With Spool Latch & Drive Pin For 35mm
00939	Fast Rewind Pulley - 50Hz
00940	Slow Rewind Pulley - 50/60Hz
00941	Fast Rewind Pulley - 60Hz
00943	Spool Drive Pin
00956	Intermediate Spool Latch
00957	Front Spool Latch
00960	Spindle With Double Spool Latch & Drive Pin For 35/70mm
00963	Spacer Washer
DGB-3500	Upper Clutch Assembly (Please Advise If It Is To Be Used For 35mm or 35/70mm)
15-3653	Circlip - 15mm Diameter

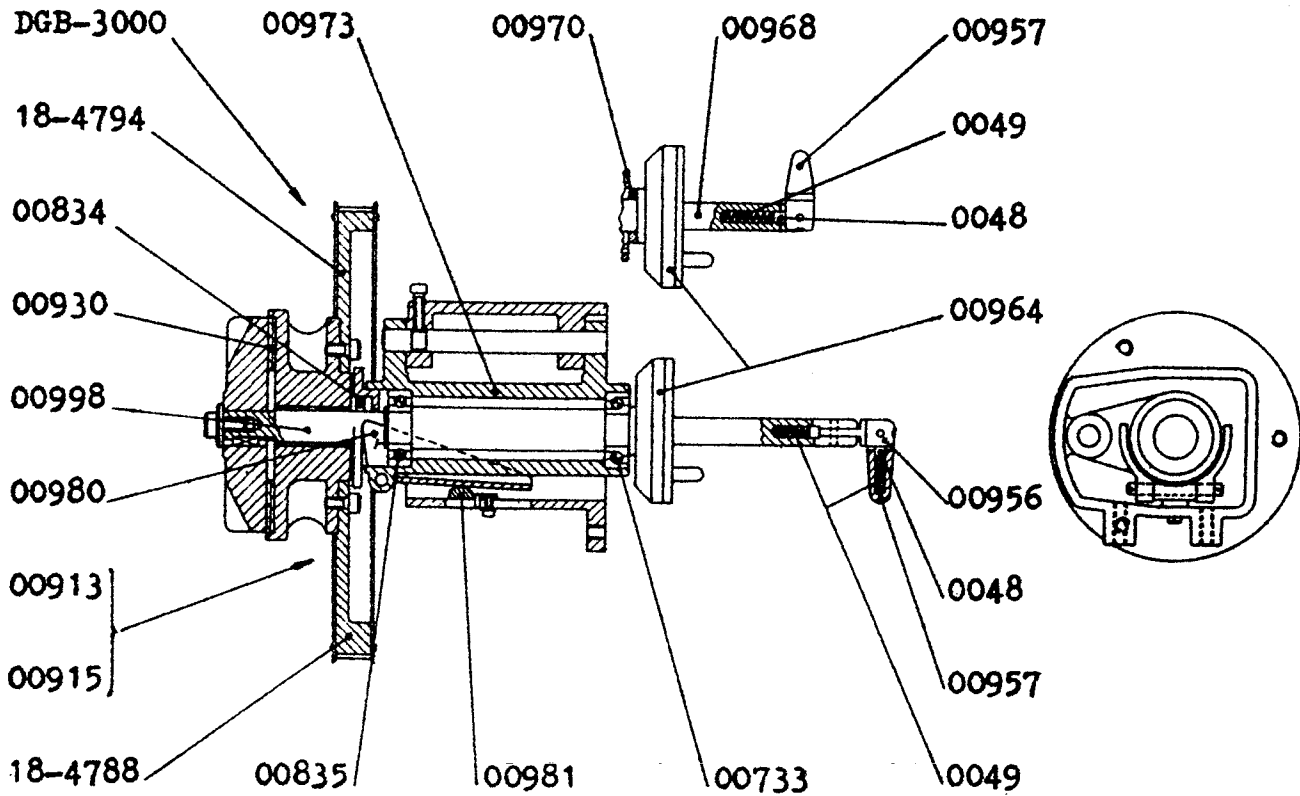


FIG. 5

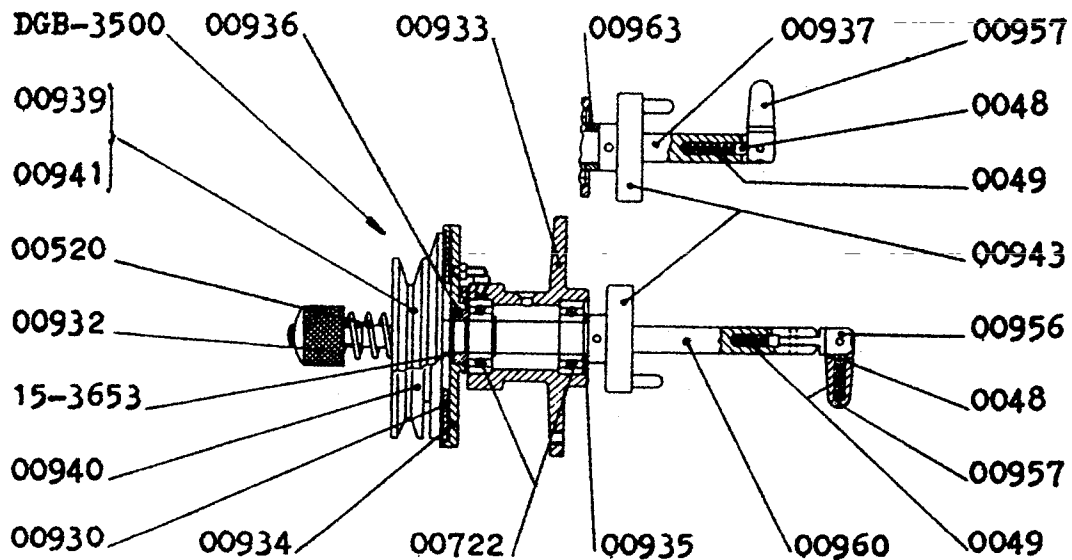


FIG. 6

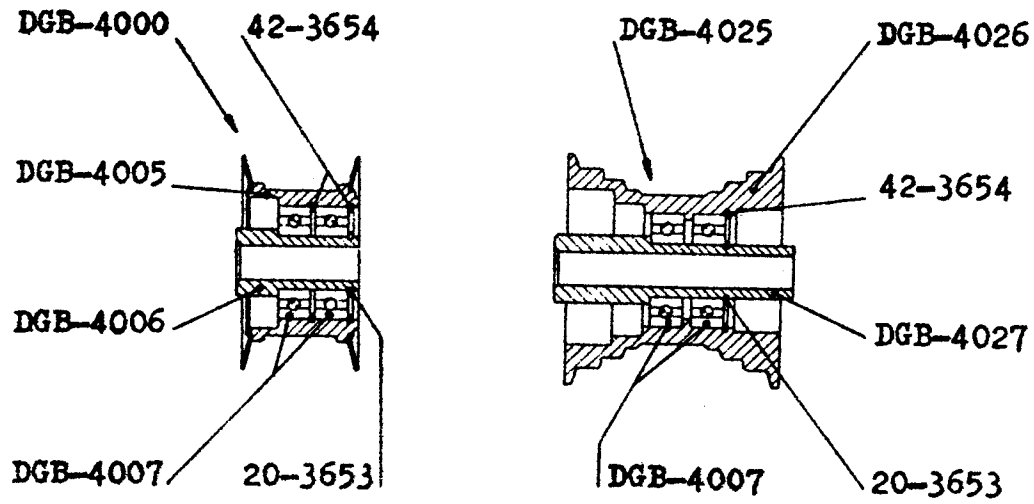


FIG. 7

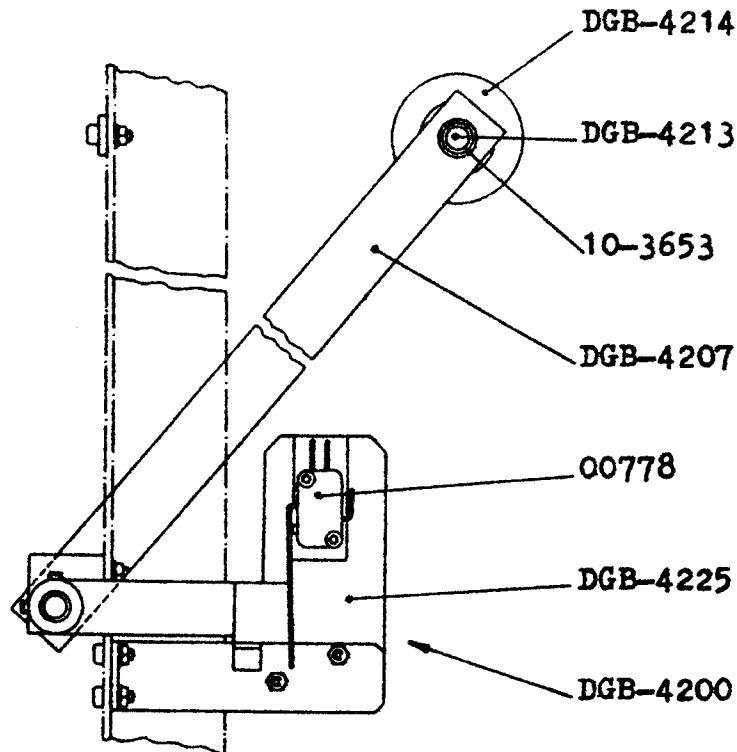


FIG. 8

FIG. 7 - FLANGED ROLLER FOR 35MM & 35/70MM

DGB-4000	Flanged Roller Assembly For 35mm
DGB-4005	Flanged Roller For 35mm
DGB-4006	Bearing Spindle
DGB-4007	Ball Bearing
DGB-4025	Flanged Roller Assembly For 35/70mm
DGB-4026	Flanged Roller For 35/70mm
DGB-4027	Bearing Spindle
20-3653	Circlip - 20mm Diameter
42-3654	Circlip - 42mm Diameter

FIG. 8 - AUTO REWIND SHUT-OFF

00778	Microswitch
DGB-4200	Auto Rewind Shut-Off Assembly
DGB-4207	Roller Lever With Spindle
DGB-4213	Roller Spindle
DGB-4214	Flanged Roller With Sleeves
DGB-4225	Bracket With Microswitches
10-3653	Circlip - 10mm Diameter

FIG. 9 - FILM MAKE-UP/BREAK-DOWN DEVICE (35MM)

00738	Ball Bearing
DGB-4300	Film Make-Up/Break-Down Device (Shaft Diameter To Be Advised)
DGB-4301	Plate
DGB-4302	Small Plate
DGB-4305	Toothed Belt Type 332 L 025
8V-7661	Shaft Support Assembly
8V-7662	Shaft Support (Machined Casting)
8V-7664	Bearing Spacer
8V-7669	Spool Shaft With Pulley - 5/16" Diameter
8V-7691	Spool Shaft With Pulley - 9mm Diameter
5S-4977	Driving Pulley - 32 Teeth
5S-4986	Spool Shaft With Pulley - 12.7mm Diameter
28-3654	----- Circlip - 28mm Diameter

FIG. 10 - FILM MAKE-UP/BREAK-DOWN DEVICE (35/70mm)

00738	Ball Bearing
8V-7601	Film Make-Up/Break-Down Device (Shaft Diameter To Be Advised)
8V-7603	12.7mm Diameter Spool Shaft With Spool Latch & Drive Pin
8V-7610	Driving Pulley
8V-7612	Sleeve
8V-7614	Flange With Bushes
8V-7619	Driven Pulley Assembly (Shaft Diameter To Be Advised)
8V-7620	Driven Pulley Support
8V-7621	----- Driven Pulley
8V-7622	5/16" Diameter Spool Shaft With Spool Latch & Drive Pin
8V-7634	Bearing Stop Washer
8V-7638	"V" Belt Type UNI X 80
8V-7642	Knob
8V-7643	Bush
8V-7644	Hex. Nut
8V-7650	9mm Diameter Spool Shaft With Spool Latch & Drive Pin
28-3654	----- Circlip - 28mm Diameter

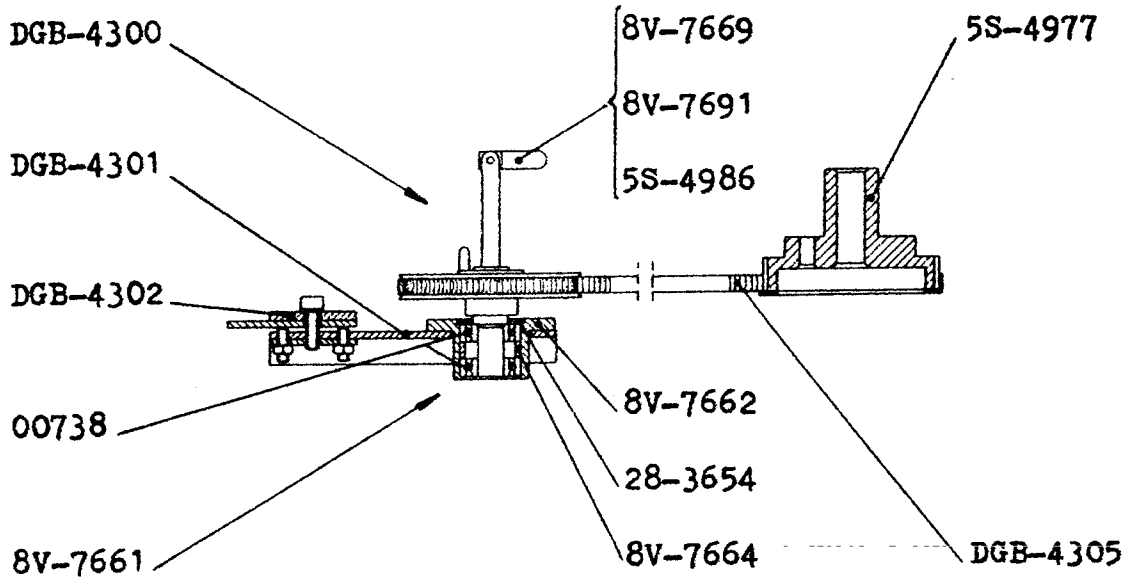


FIG. 9

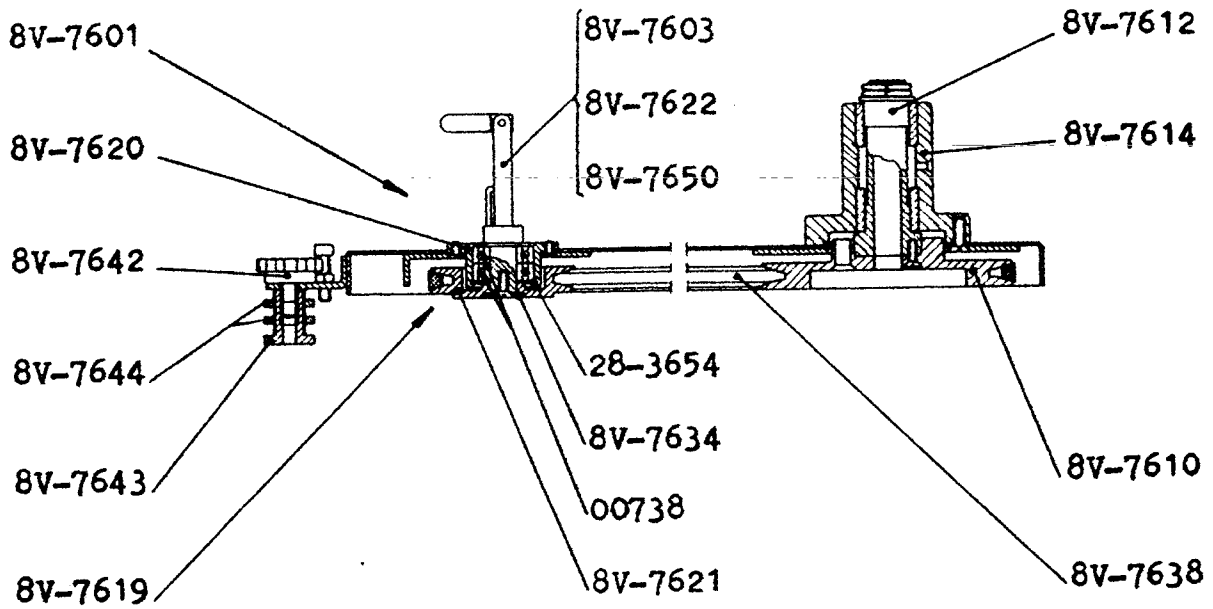


FIG. 10

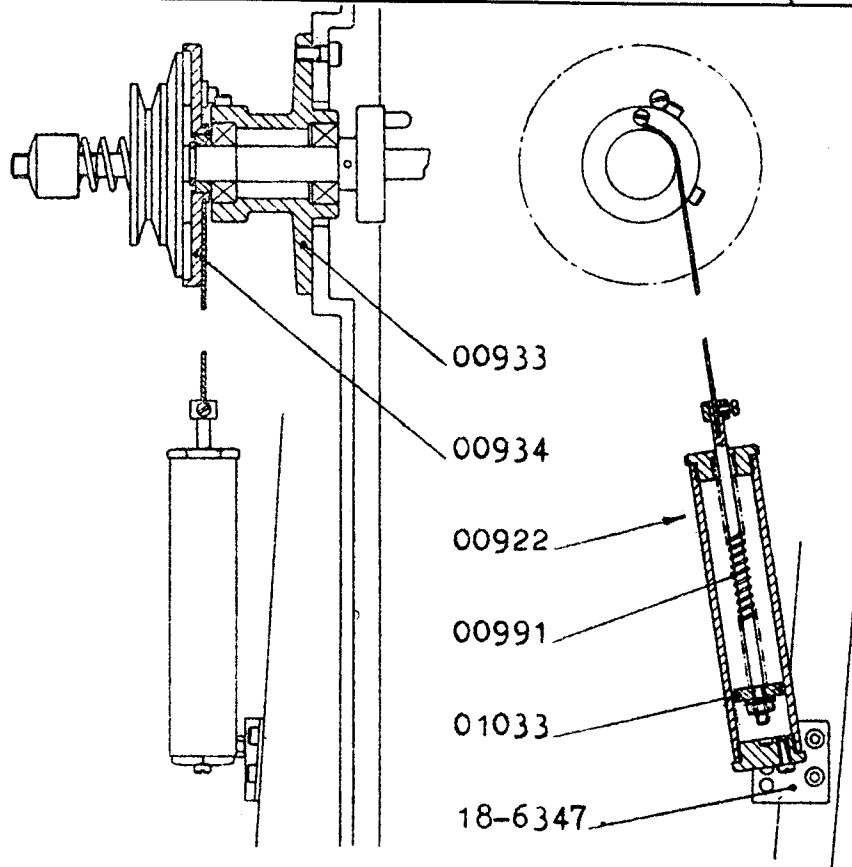


FIG. 22

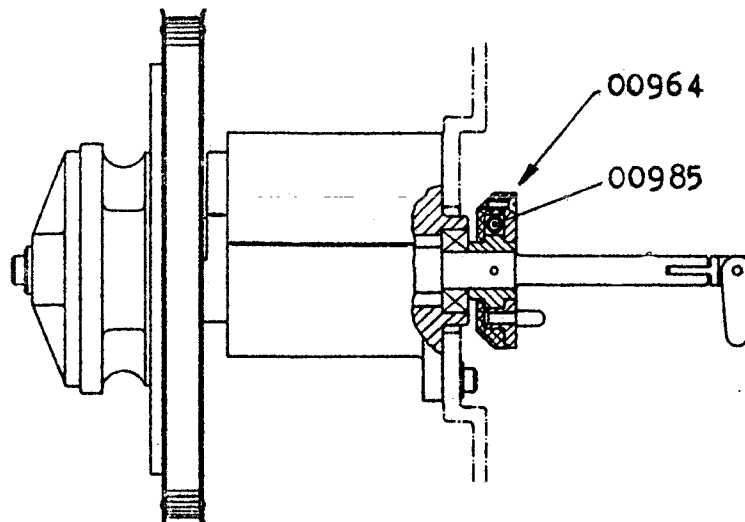


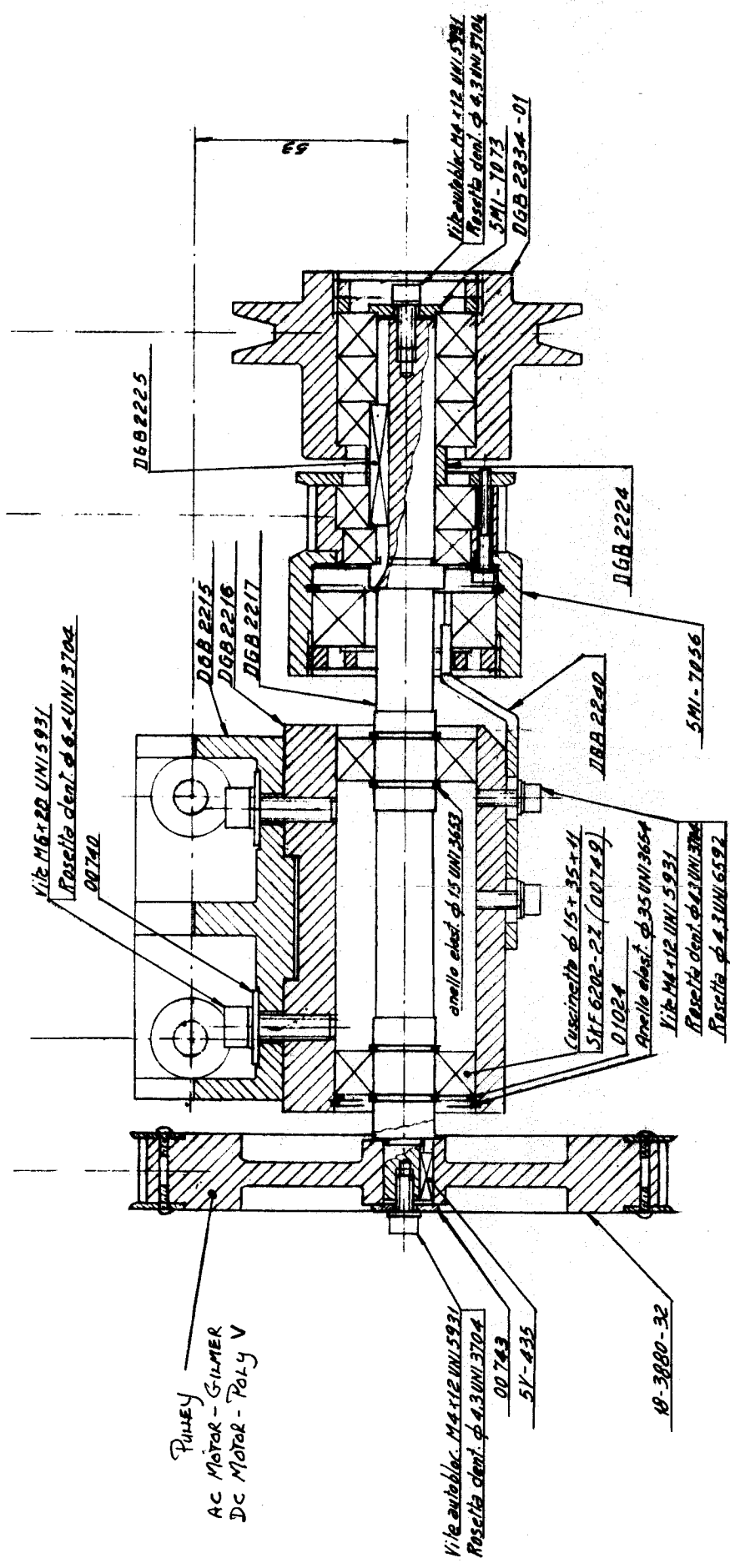
FIG. 23

FIG. 22 - UPPER LOOP ABSORBER

00922	Loop Absorber Cylinder Assembly
00933	Clutch Holder
00934	Clutch Disc With Loop Absorber
00991	Loop Absorber Cylinder Spring
01033	Seal Ring
18-6347	Loop Absorber Cylinder Bracket

FIG. 23 - LOWER LOOP ABSORBER

00964	Lower Loop Absorber Assembly
00985	Loop Absorber Spring



ROSETTA - WASHER
 VITE - SCREW
 CUSCINETTO - BEARING

RAMP CLUTCH ASSEMBLY
 FOR USE WITH
 AC OR DC TYPE MOTORS

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THE FOLLOWING PAGES IN THIS SECTION WERE USED ON THE ORIGINAL TOWERS OF AC VOLTAGE AND WITH GEAR BOXES OR RAMP CLUTCHES.

SOME OF THE PARTS ARE ALSO COMMON, HOWEVER, TO THE NEWER DC TYPE TOWERS.

PROJECTION

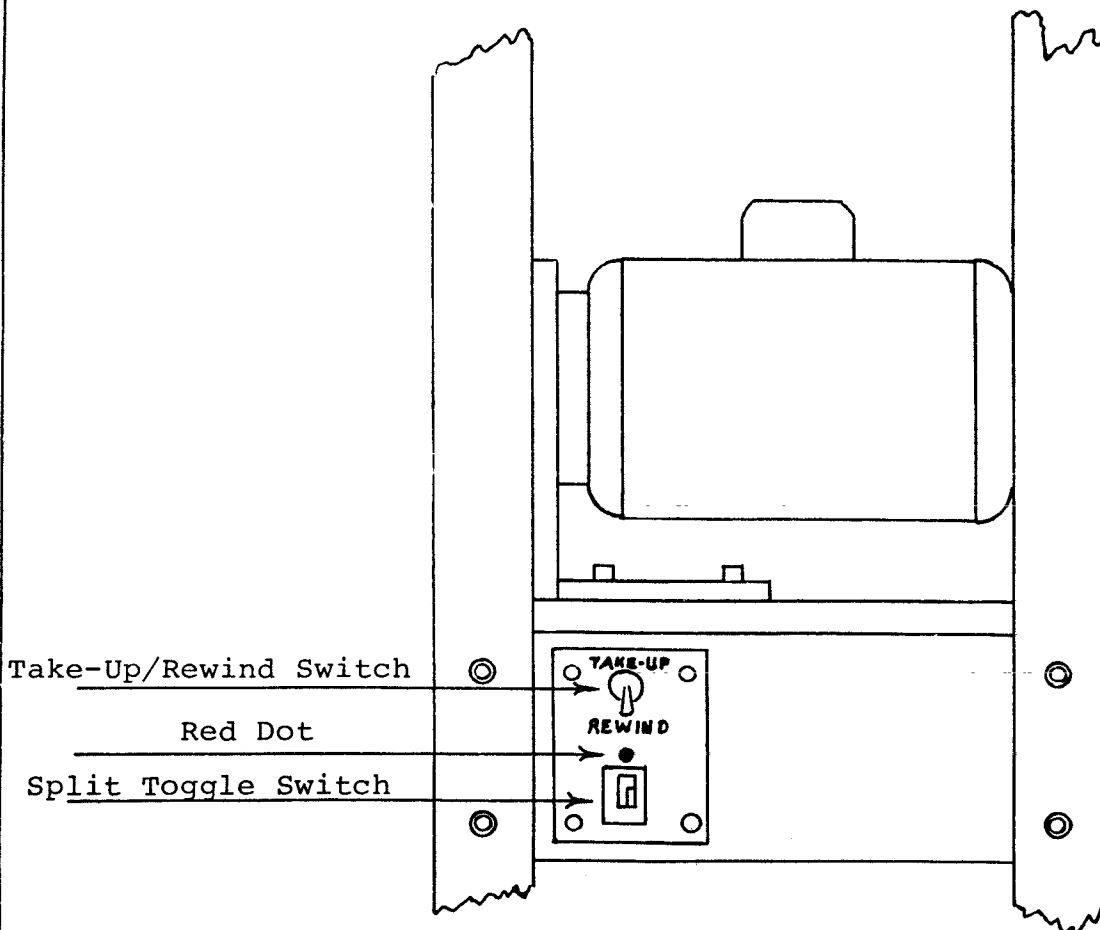
Before Starting Projector:

1. Take-up/rewind switch must be in the take-up position.
2. Remove all slack between upper and lower reels and rollers.
3. Start take-up motor by moving the split toggle switch toward red dot or ON position. (Part of the switch is spring loaded and will return when pressure is removed.)
4. Start projector motor.

REWINDING

The Following Sequence Must Be Observed:

1. Take-up/rewind switch must be in the rewind position.
2. Remove all slack between reels.
3. Start rewind operation by moving the split toggle switch toward red dot or ON position.



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DGB 2 x 4 TOWER
AND
DGB 4 x 4 TOWER
MOTOR TERMINATION

16 OCTOBER 1975

DWG. #249

NOTE: TWO TYPES OF MOTORS ARE BEING USED
ON DGB TOWERS

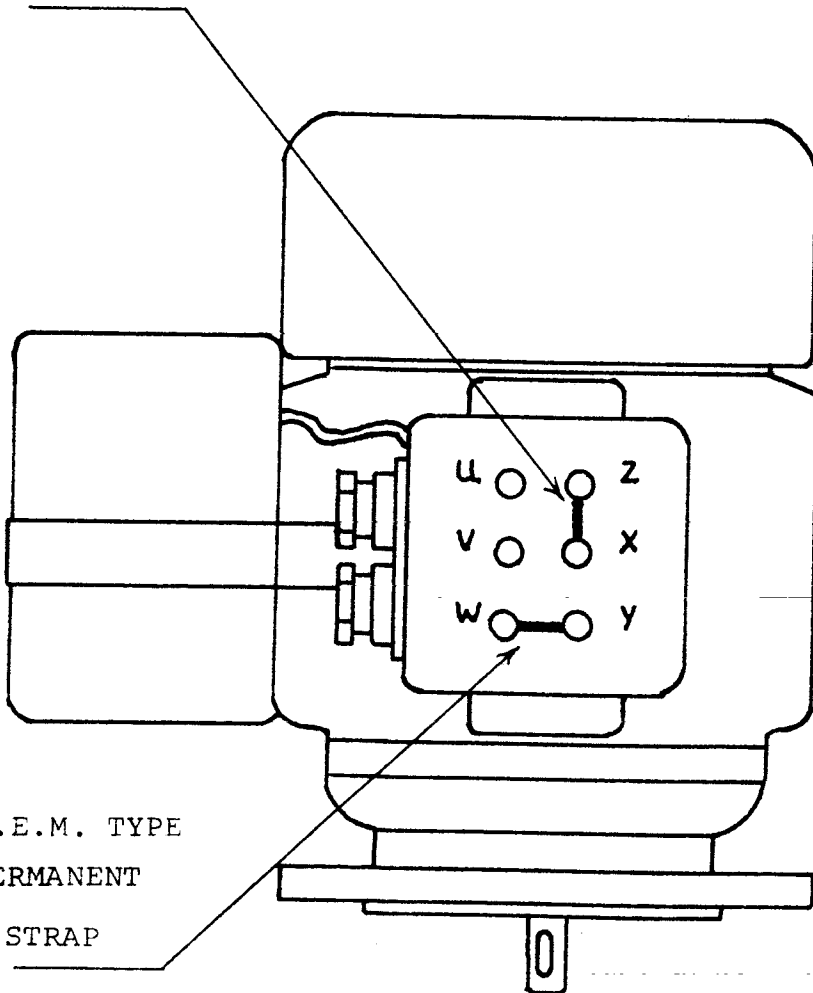
I.C.M. TYPE
PERMANENT
STRAP

O.E.M.

		Hz	60
HP	0.3	V	120
RPM	1620	A	2.8
CAPACITOR	35 uf		

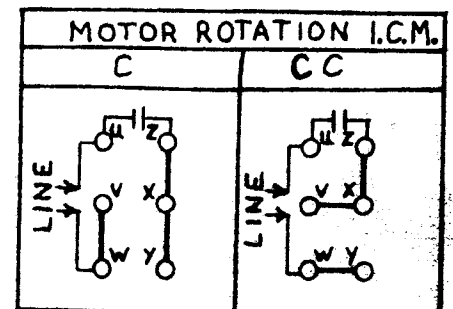
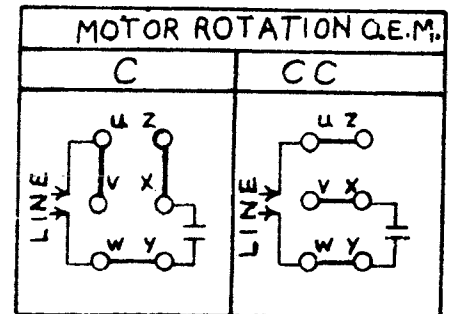
I.C.M.

		Hz	60
HP	0.3	V	120
RPM	1700	A	4.5
CAPACITOR	10 uf		



O.E.M. TYPE
PERMANENT
STRAP

MOTOR DATA		
	O.E.M.	I.C.M.
VOLTS	120	120
HZ	60	60
RPM	1620	1700
HP	0.3	0.3
AMPS	2.8	4.5
CAPACITOR	35uf-250V	10uf-450V



ALL OTHER CONNECTIONS MADE BY
TAKE UP/REWIND MOTOR SWITCH
(18-3854 Dwg. #244)