

SERVICE MANUAL

NO. 3656 STOCK CAR

The motion of the miniature animals in the No. 3656 Stock Car and along its corral platform is produced by rapid vibration of the 'floating' floor of the platform and the cattle runway in the car. Vibration is produced by solenoids mounted underneath the car and the platform. Electric current for the two solenoids is supplied through the two binding posts on the end of the platform.

Since it is impractical to stipulate a precise voltage for operating a vibrating mechanism of the type employed, the platform binding posts should be connected to a source of variable voltage -- such as the track itself -- so that voltage may be readily adjusted for best performance.

Current for the car solenoid is fed through two blades which project from the track base and which make contact with the sliding shoes beneath the car trucks. The blades are so located that the car can be energized only when

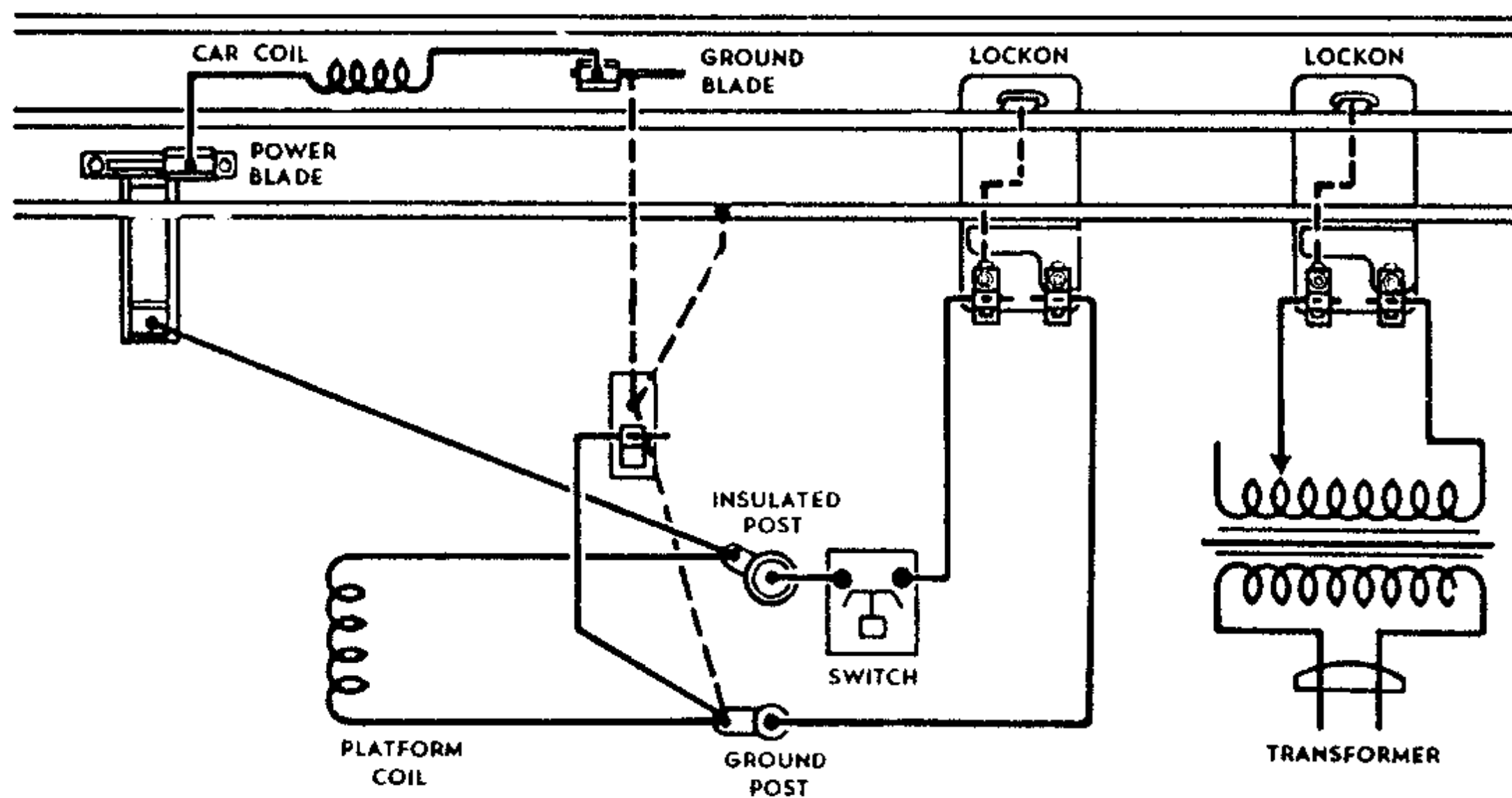
it is within 1/4" of its precise operating position in front of the platform. The circuit diagram of the car and the corral platform is shown below.

Note that because the platform, when assembled to the layout, is in addition grounded through the outside track rails, the controller switch must be inserted on the 'high' side, as shown.

The Stock Car outfit can be operated with either '0' or '027' gauge track provided that proper adjustment is made in the height of the corral platform and the correct contact blades are used to compensate for the difference in the heights of the two types of track.

It is important that the track is mounted on platform track base correctly, according to instructions, or the car will be tilted and either fail to make proper electrical contact with the base, or interfere with the action of the platform bridge.

WIRING DIAGRAM OF NO. 3656 STOCK CAR AND PLATFORM



Note that when the corral platform is assembled to the track, the electrical circuit is completed not only through the ground post which is wired to the track lockon, but also directly through the frame to the outside rails, as indicated by dotted lines. For this reason the car and platform will operate even if the grounding wire is omitted. Consequently the controller switch, in order to be effective, must be inserted in the 'high' side of the circuit.

SERVICE HINTS

1. *Sticking Overhead Doors.* Relieve friction along sides of door frames by scraping off excess paint, burrs, etc. Failure of overhead doors to operate properly may be caused by poor adjustment of the spring lever. Adjust as follows: Overbend spring lever upward as in Figure 1. Then, holding overhead doors closed, reach the plunger through the sliding door and push it down several times until doors rise enough to clear cattle and close completely. Readjustment of lever may be necessary when replacing or remounting the overhead doors or the cattle runway. To prevent interference with spring lever, anchor the coil lead to floor of car with a bit of scotch tape.

Bend Spring Upward

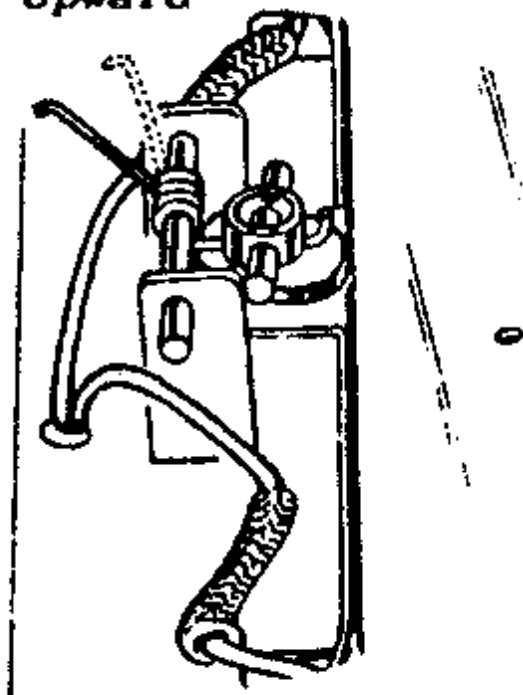


Figure 1 - Adjusting Lever Spring

2. *Replacing Overhead Doors.* When replacing overhead doors it may be necessary to remove any rough spots and round off the sharp corner at the center 'cam' portion of the bar joining the two doors. Clean out the pivot holes in the ends of the bar by hand-reaming with a #55 drill. (See Figure 2).

File Off Burr

*Ream Out
Pivot Hole*

*Ream Out
Pivot Hole*

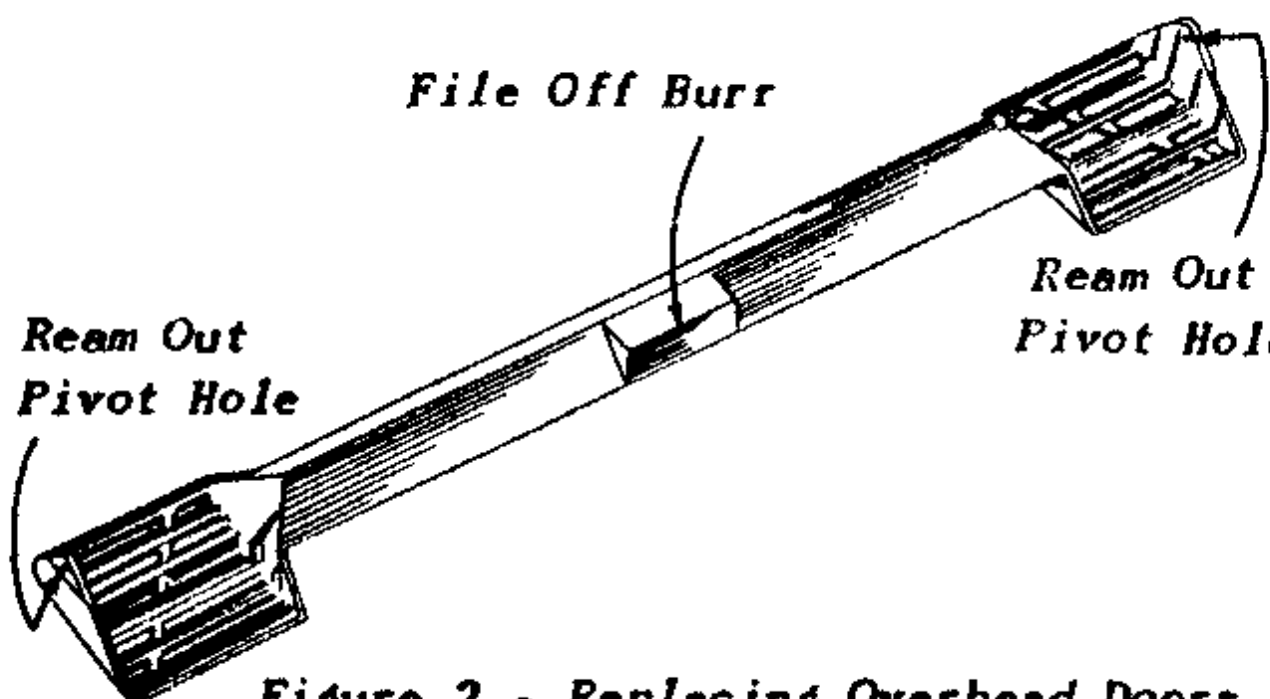


Figure 2 - Replacing Overhead Doors

3. *Tight Solenoid Plunger.* May cause poor vibration and improper action of overhead doors. Most often due to mis-alignment between the plunger and the brass plunger tube. Correct by bending or twisting plunger support carefully, as needed (Figure 3). To obtain more positive operation of overhead doors replace hollow plunger with solid plunger 3656-145 and plunger return spring 2020M-34, illustrated on page 4 of this section.

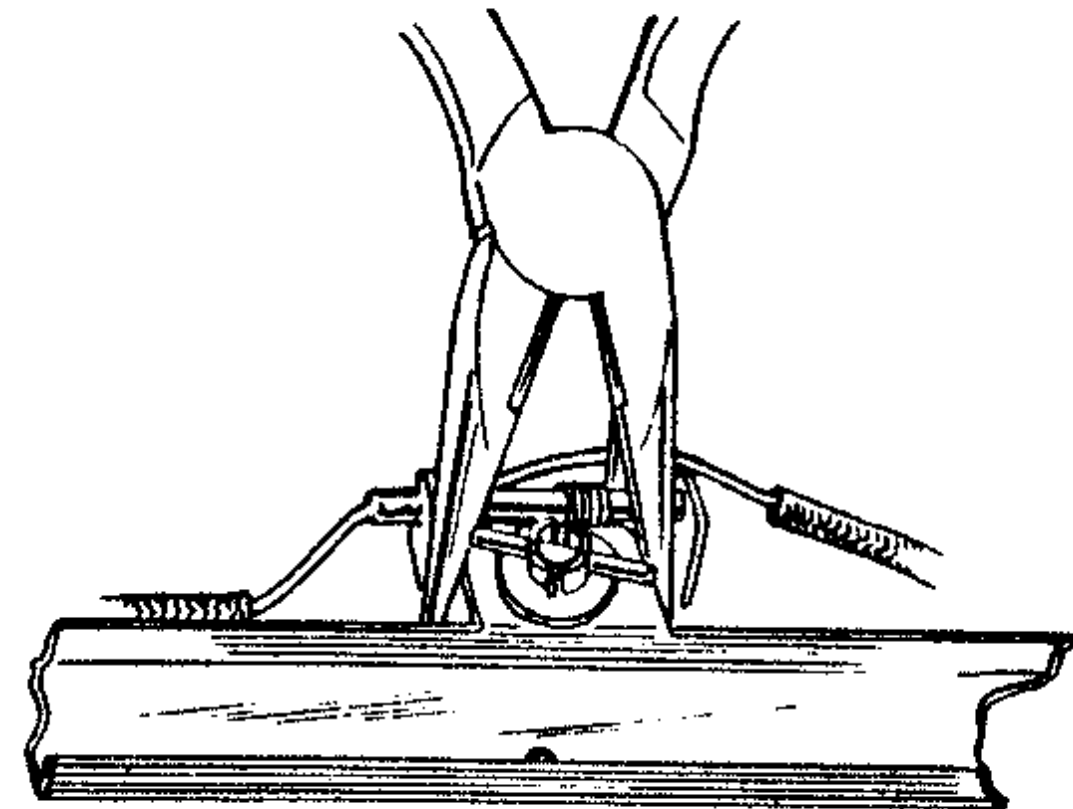


Figure 3 - Adjusting Plunger Alignment

4. *Loose Sliding Door.* If sliding door is too loose it may be pushed open by the moving cattle so that it will be impossible to load the car. Increase friction, when necessary, by bending the cattle stop bar so that it rubs against wall of car. (See Figure 4)

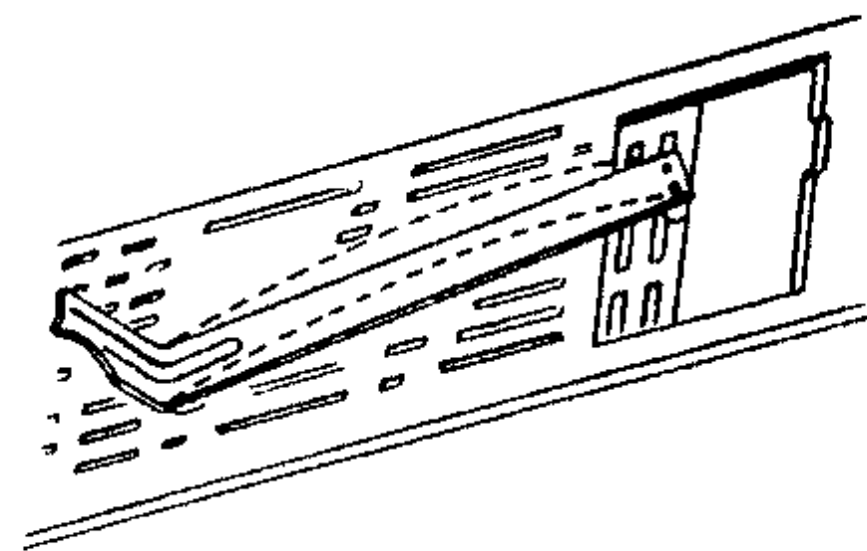


Figure 4 - Repairing Loose Sliding Door

5. *Short Circuit in Coil.* Coil leads may be short-circuited by being jammed against each other or against coil housing. Remove coil by unsoldering spring pin and straightening the four 'fingers' holding housing to car floor. Locate coil in housing so that the leads lie in the widest part of housing (front).

SERVICE MANUAL

6. *Replacing Cattle Runway.* Clean out adhesive grommet seats in car floor thoroughly, scraping out residue and using carbon tetrachloride (Carbona). To apply adhesive grommets, dip them in carbon tetrachloride, then set them into the seats and place runway on top using the aligning holes (See Figure 5) as guides. Do not depend on these holes to give perfect alignment, but check by moving the plunger in the plunger tube.

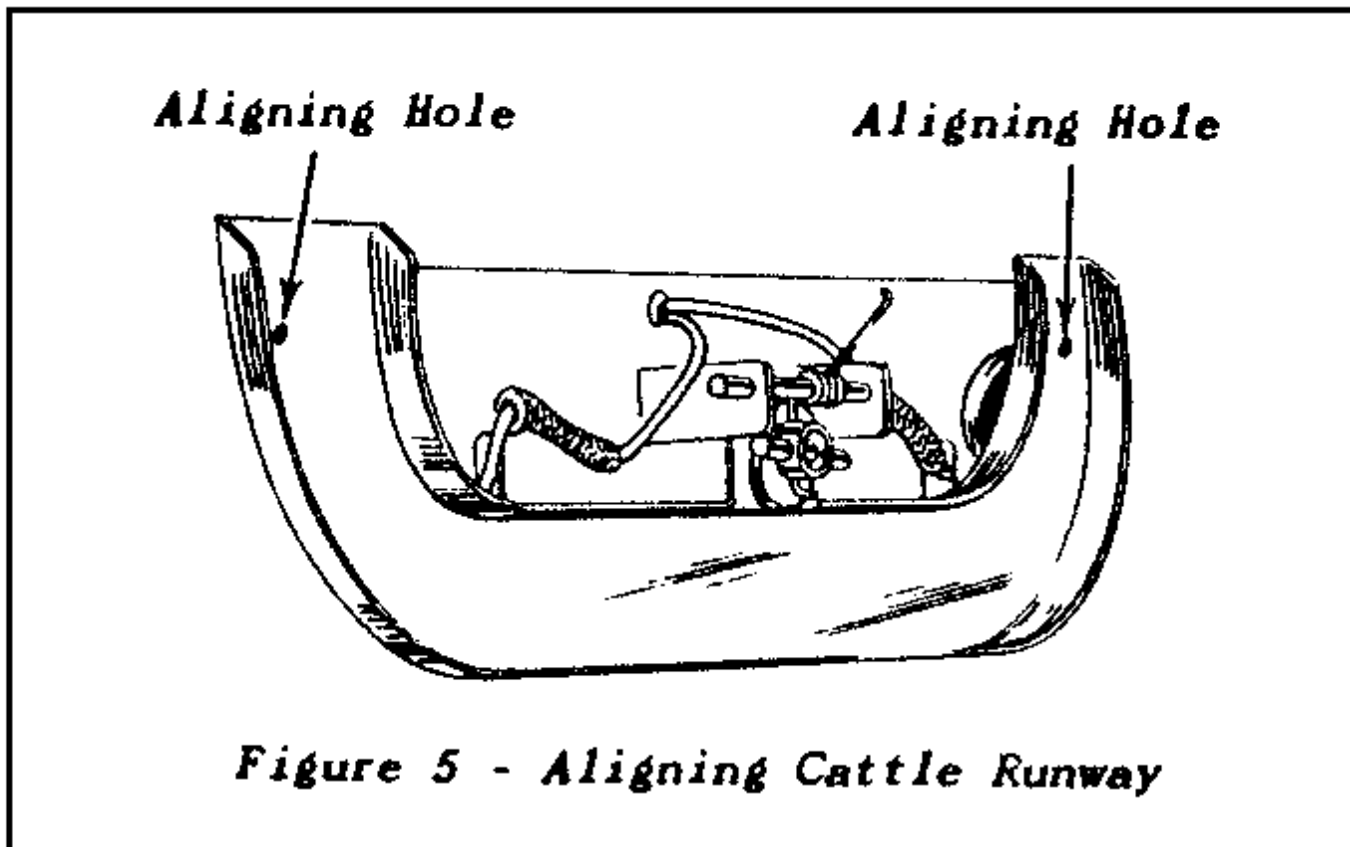


Figure 5 - Aligning Cattle Runway

7. *Removing Car Trucks.* Since alignment of the runway is fairly difficult try to disturb it as little as possible when removing or replacing car trucks. One of the trucks (at the entrance end of the runway) can be removed and replaced by using long nose pliers without disturbing the runway. To remove the other truck, lift off that end of the runway only.

SERVICING THE PLATFORM

1. *Aligning Platform Bridge.* Bridge ramps must align with the car floor. To adjust remove front fence and, holding the center of the connecting bar with a pair of pliers, adjust one of the bridges to proper height. Then bend the finger of the other bridge (Figure 6) until it makes contact with the floor of the platform when the bridge is lowered. The finger serves to transmit vibration from the floor of the platform to the bridge.

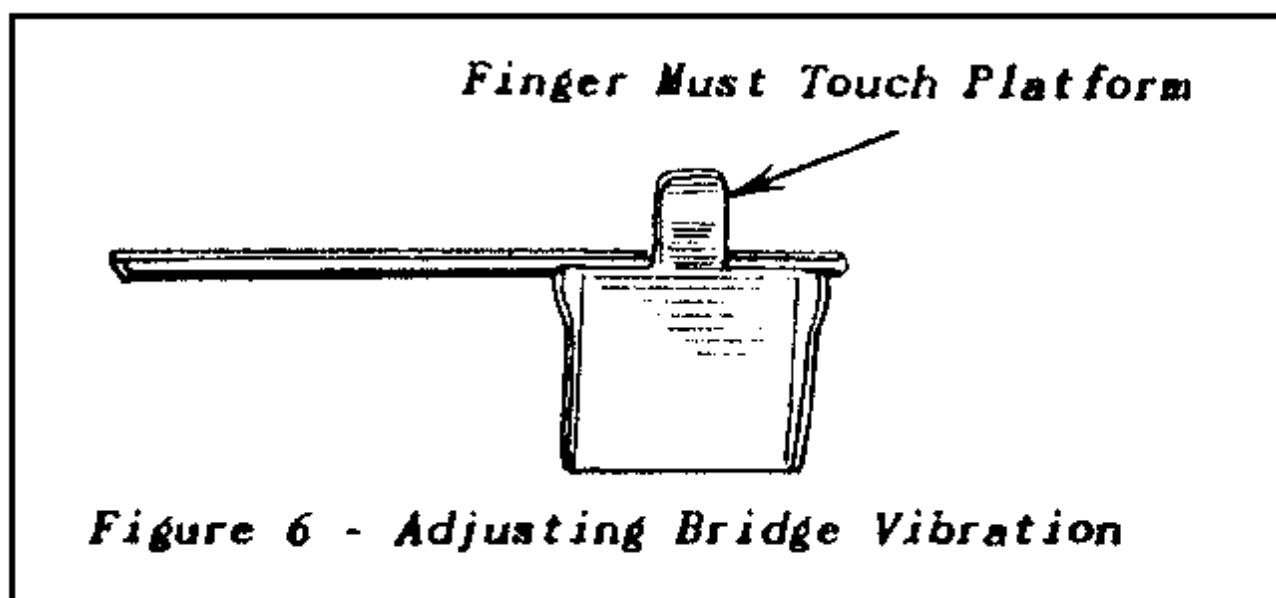


Figure 6 - Adjusting Bridge Vibration

2. *Platform Vibration.* Check to see that the platform 'floats' in the frame at all four points of suspension. Adjust the grommeted tips by bending them slightly to free platform at points where vibration seems to be poor. In the earlier production models initial adjustment of platform vibration can be made through an adjustment nut in the bottom of the platform. Resting platform on blocks to reach the nut with a socket wrench, adjust for best performance while applying 12-15 volts. After adjustment the nut should be sealed with Sauereisen cement. In later production models no adjustment is necessary and the nut is merely brought uptight.

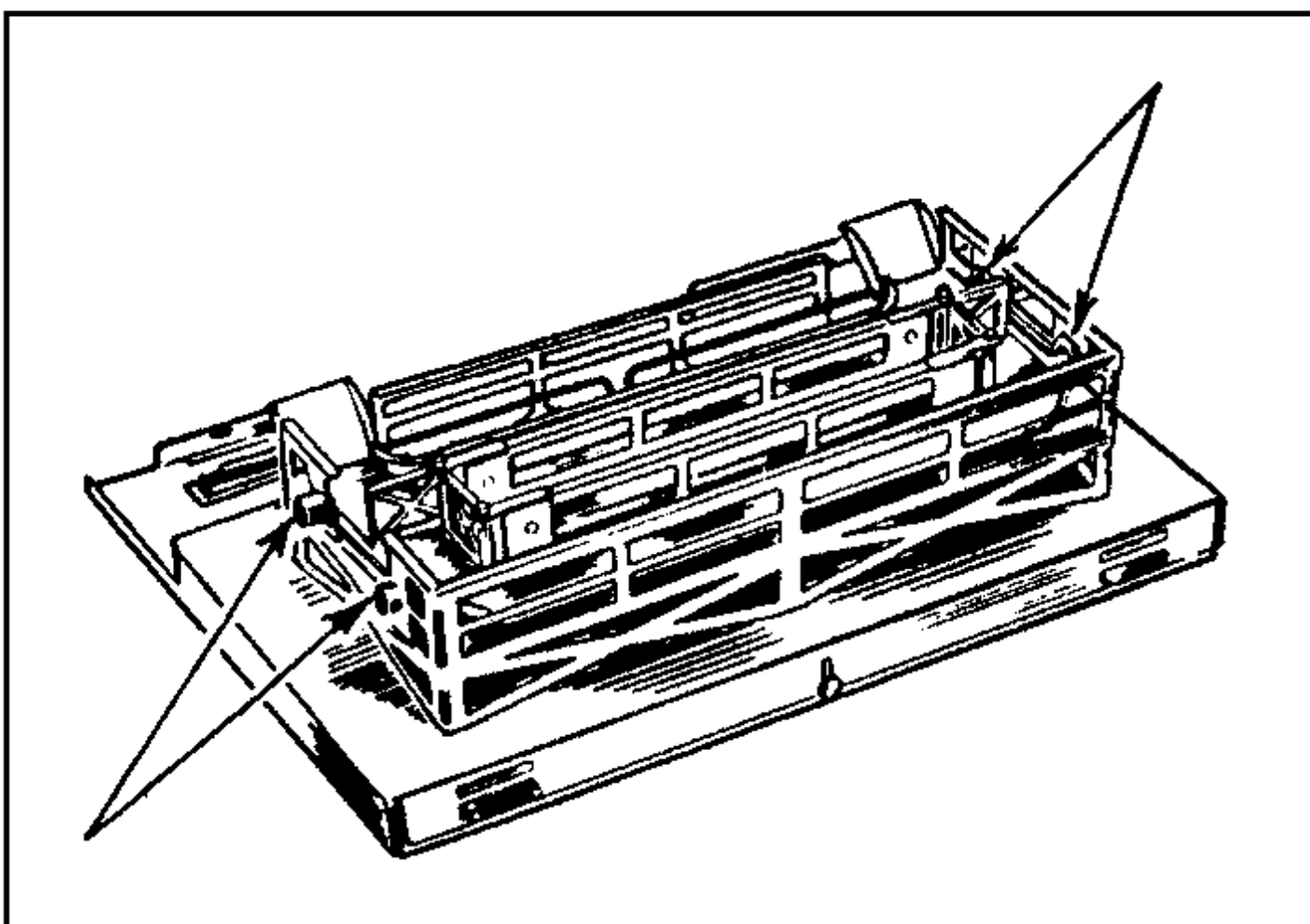


Figure 7 - Check Platform Suspension

3. *Interference With Motion of Cattle.* In the earlier production models possible sources of interference are sharp corners of the corral fence bases. Bend them back slightly as shown in Figure 8.

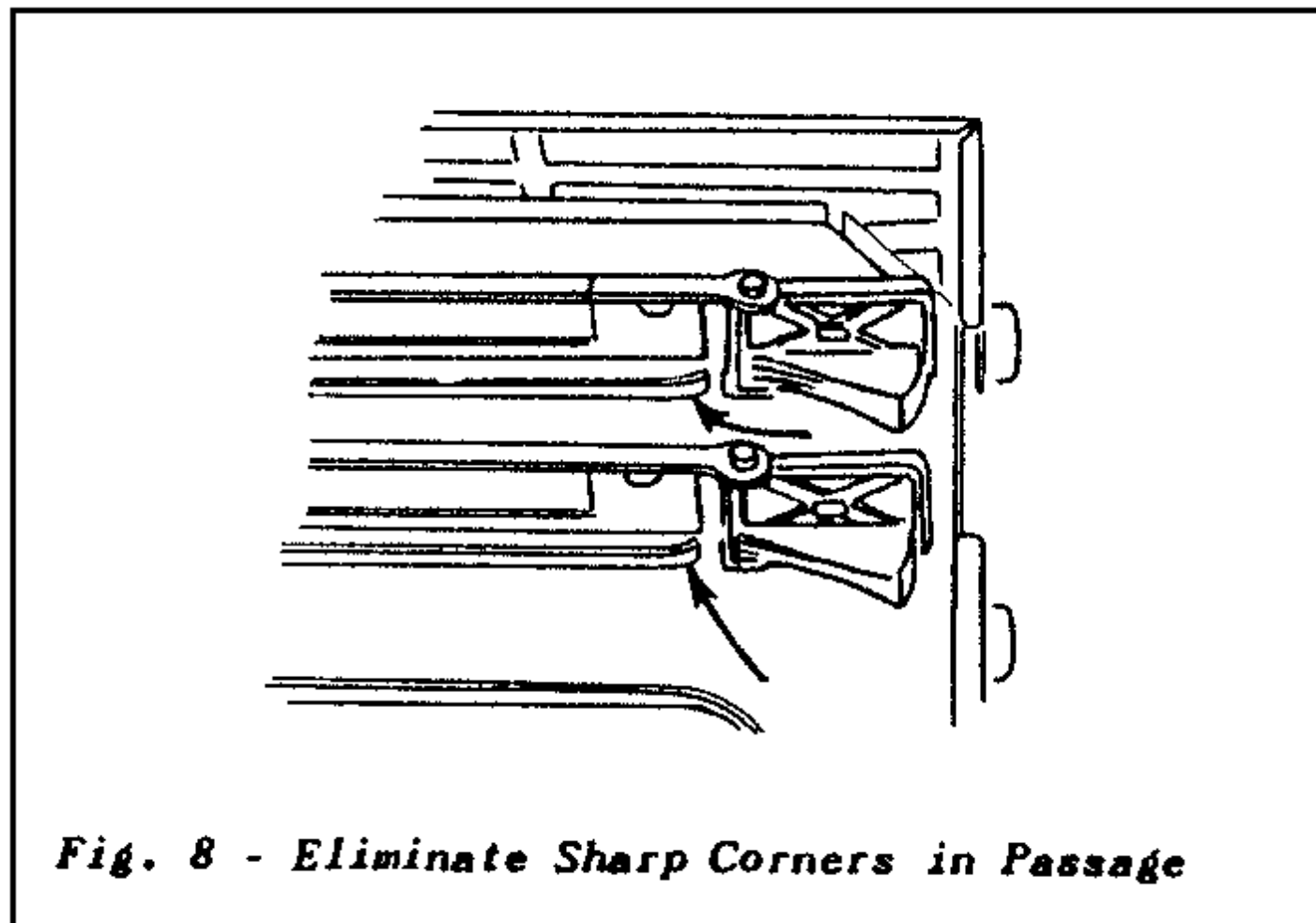
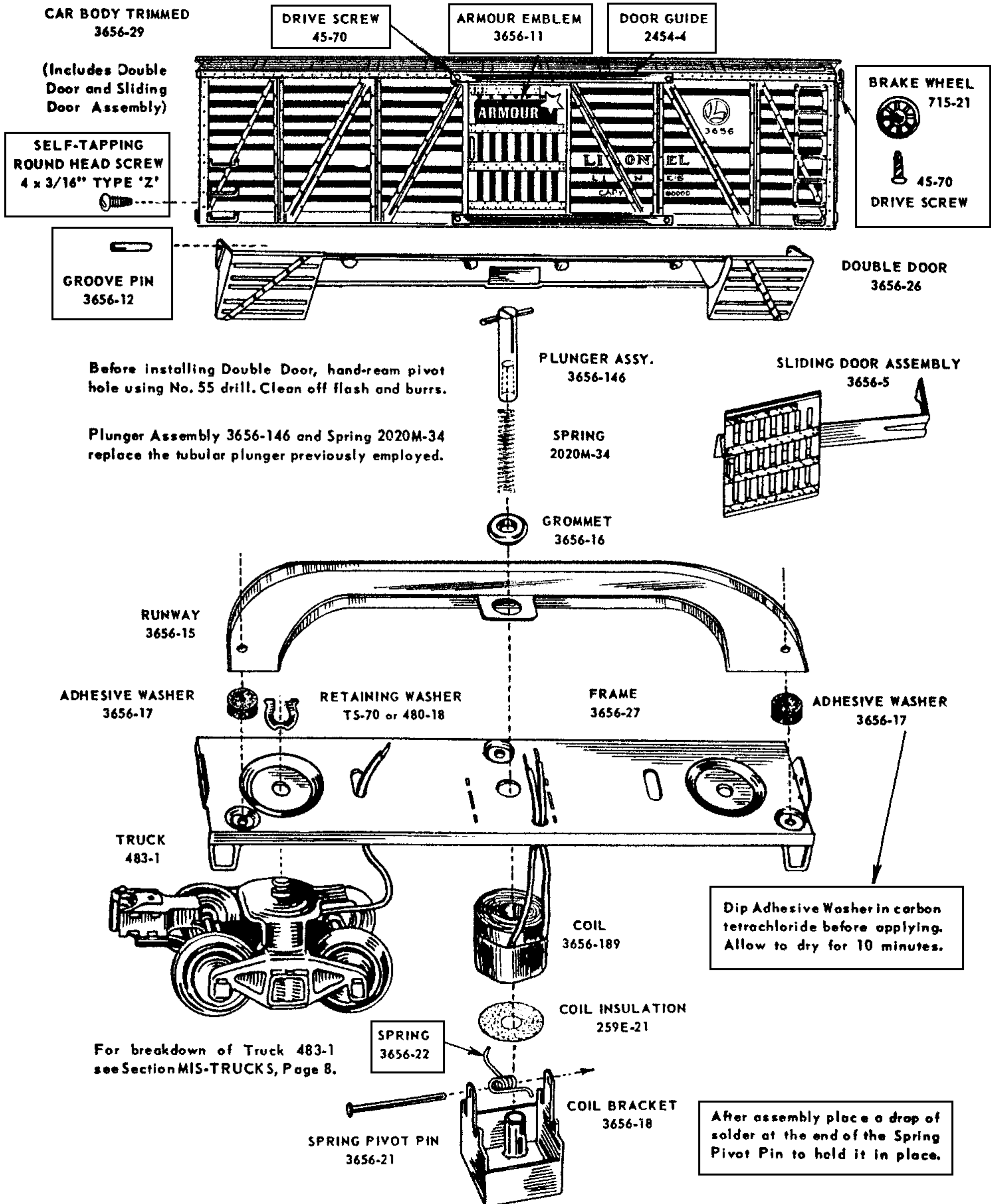


Fig. 8 - Eliminate Sharp Corners in Passage

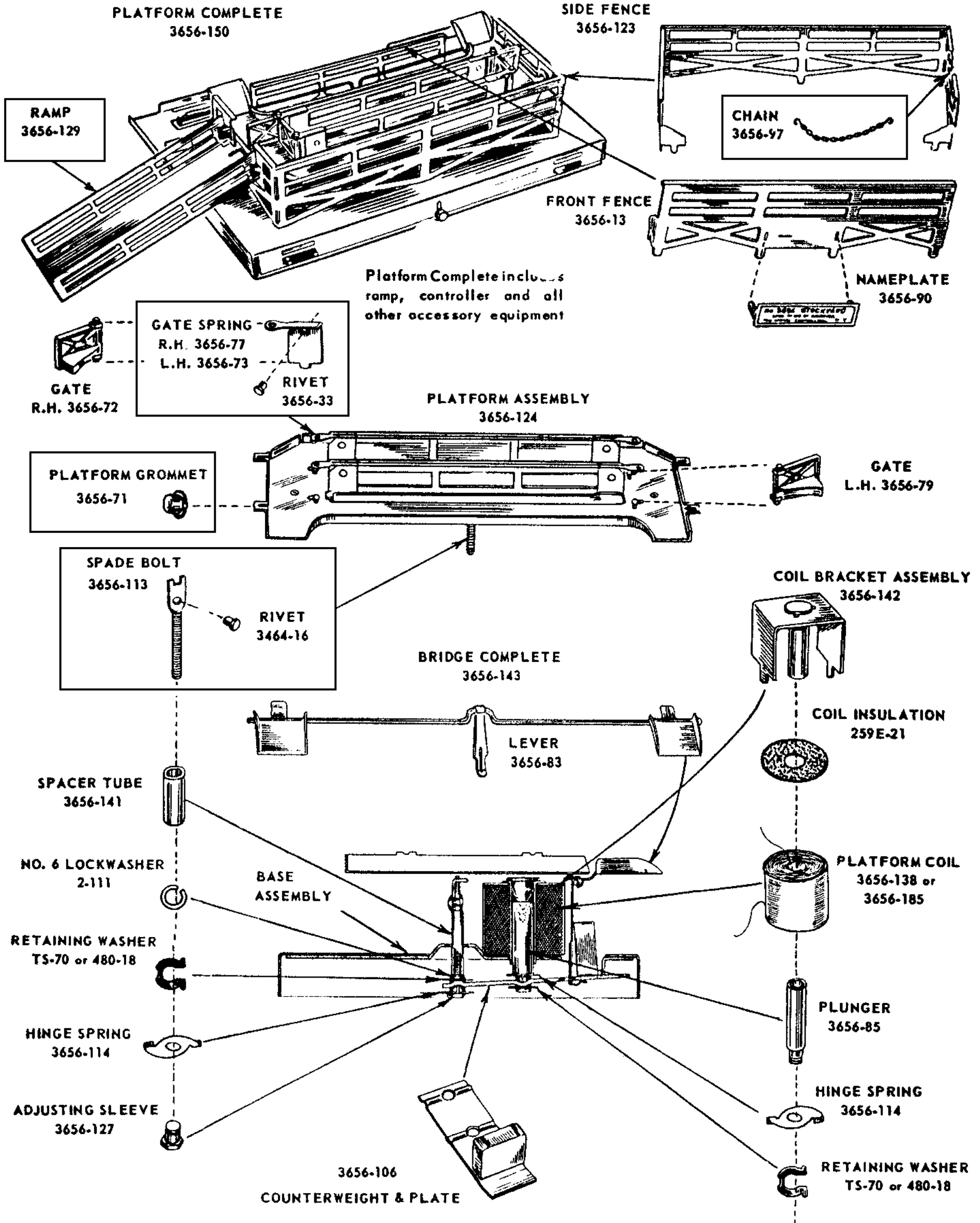
SERVICE MANUAL

OTTIP.25



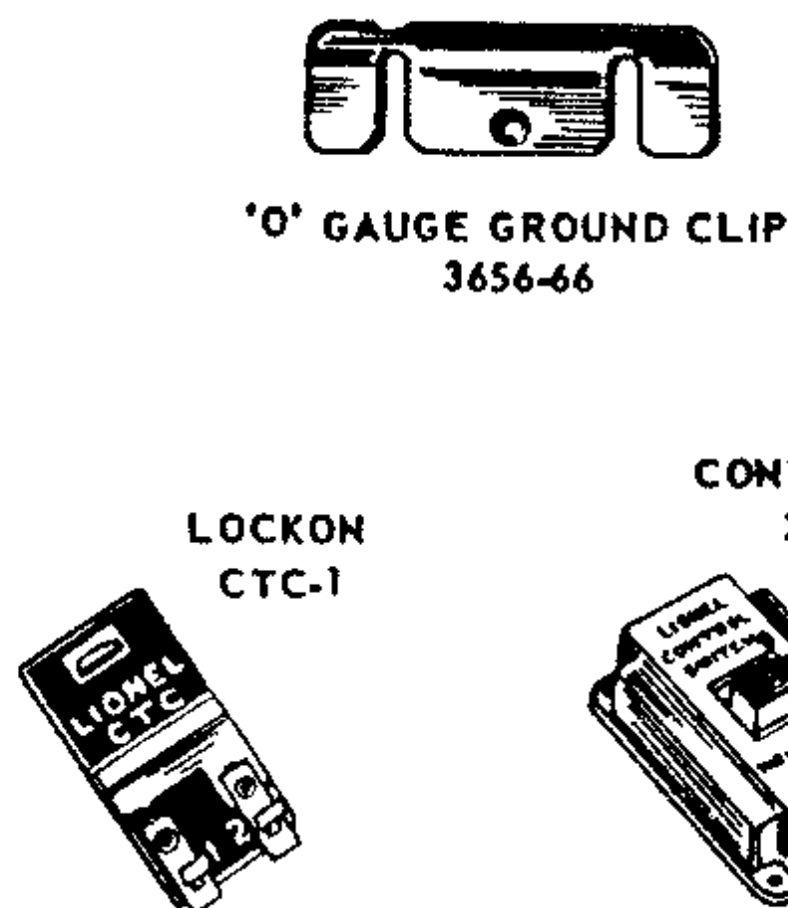
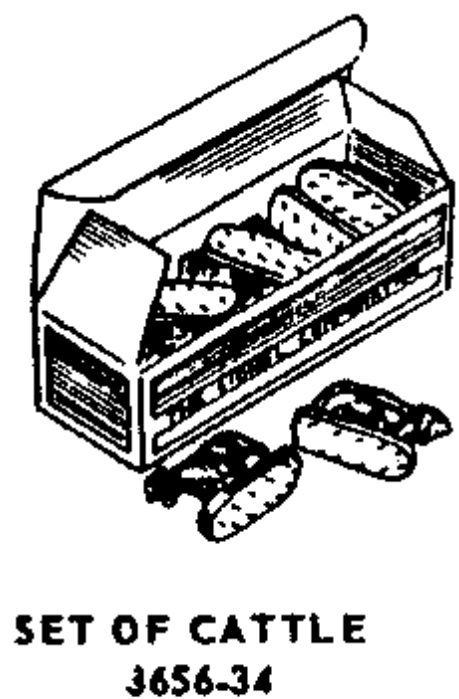
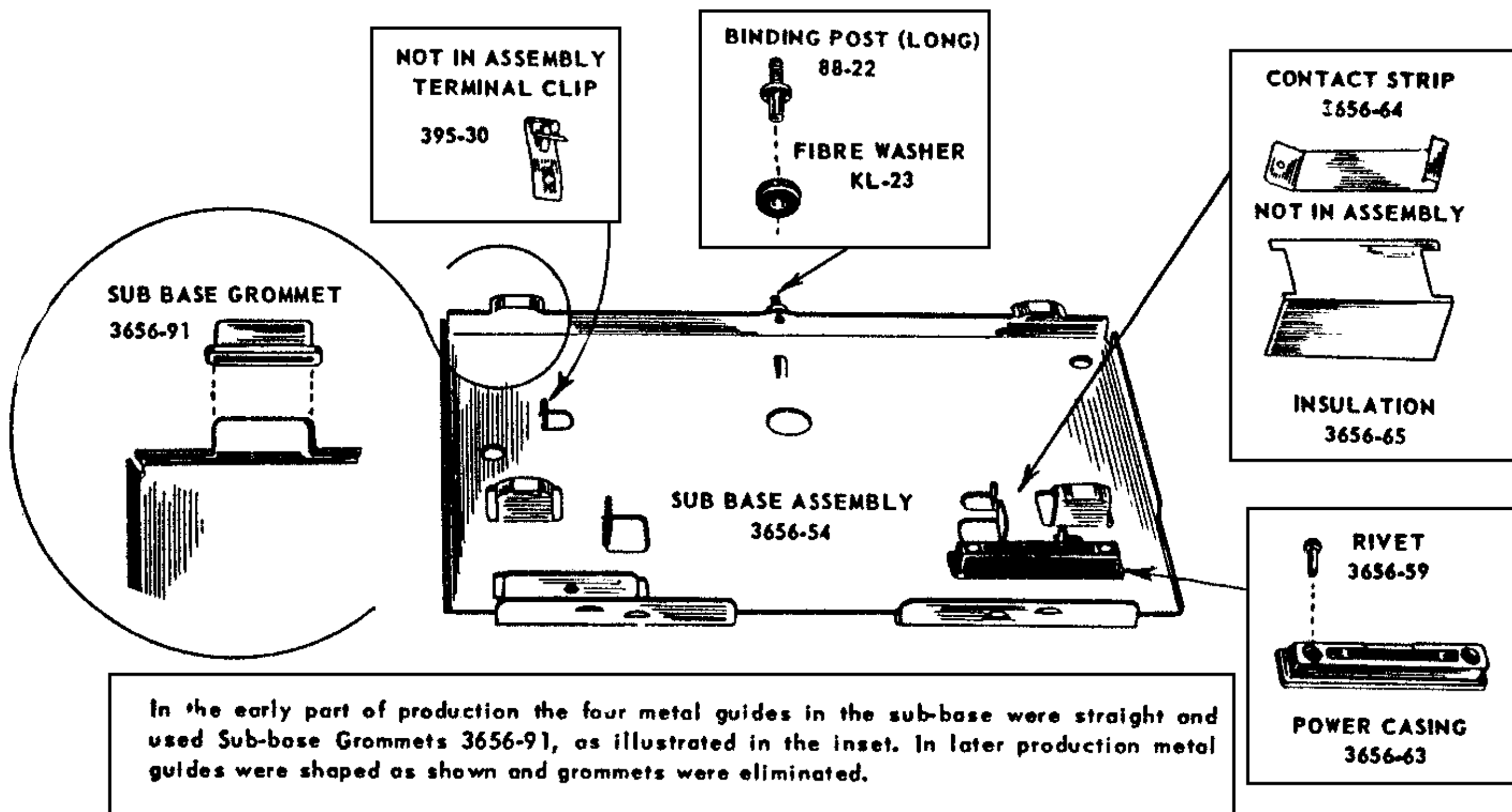
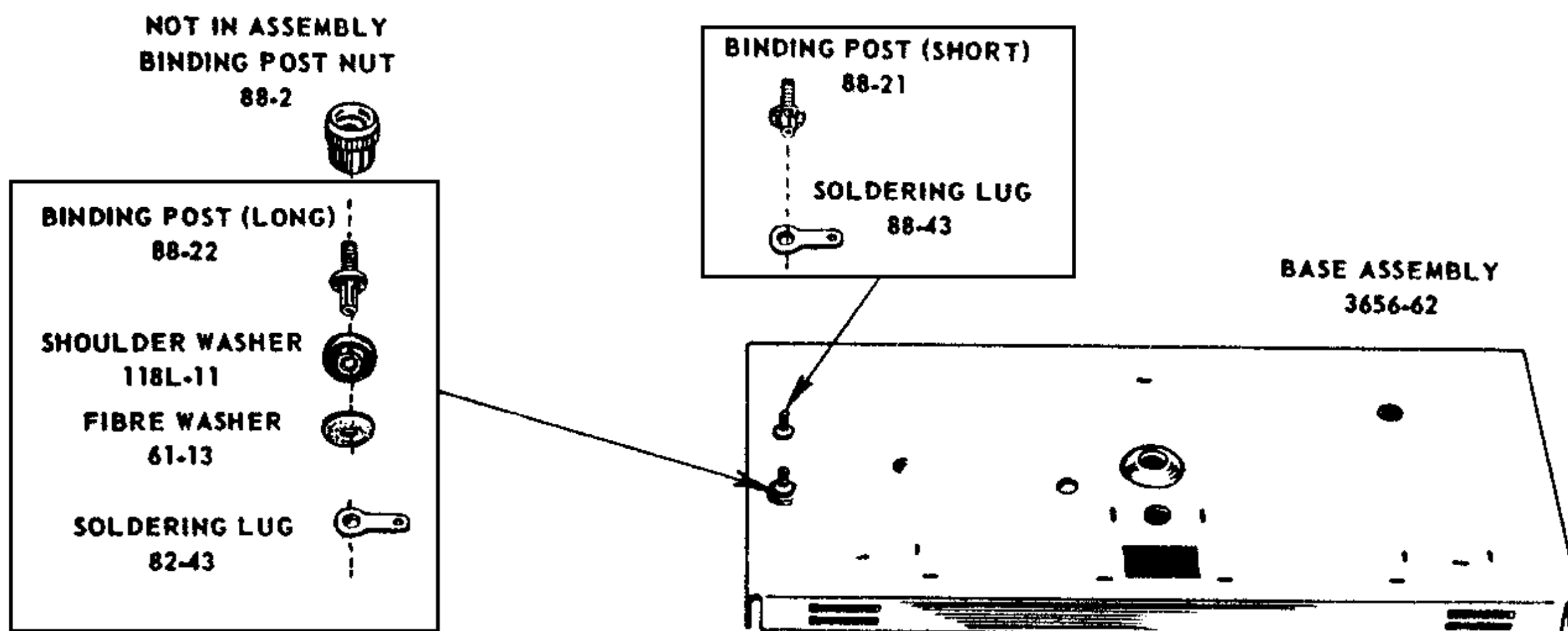
SERVICE MANUAL

OTTP-95



SERVICE MANUAL

OTTP. 25



LOCKON
CTC-1

CONTROLLER
364C-1

'0' GAUGE POWER BLADE
3656-67

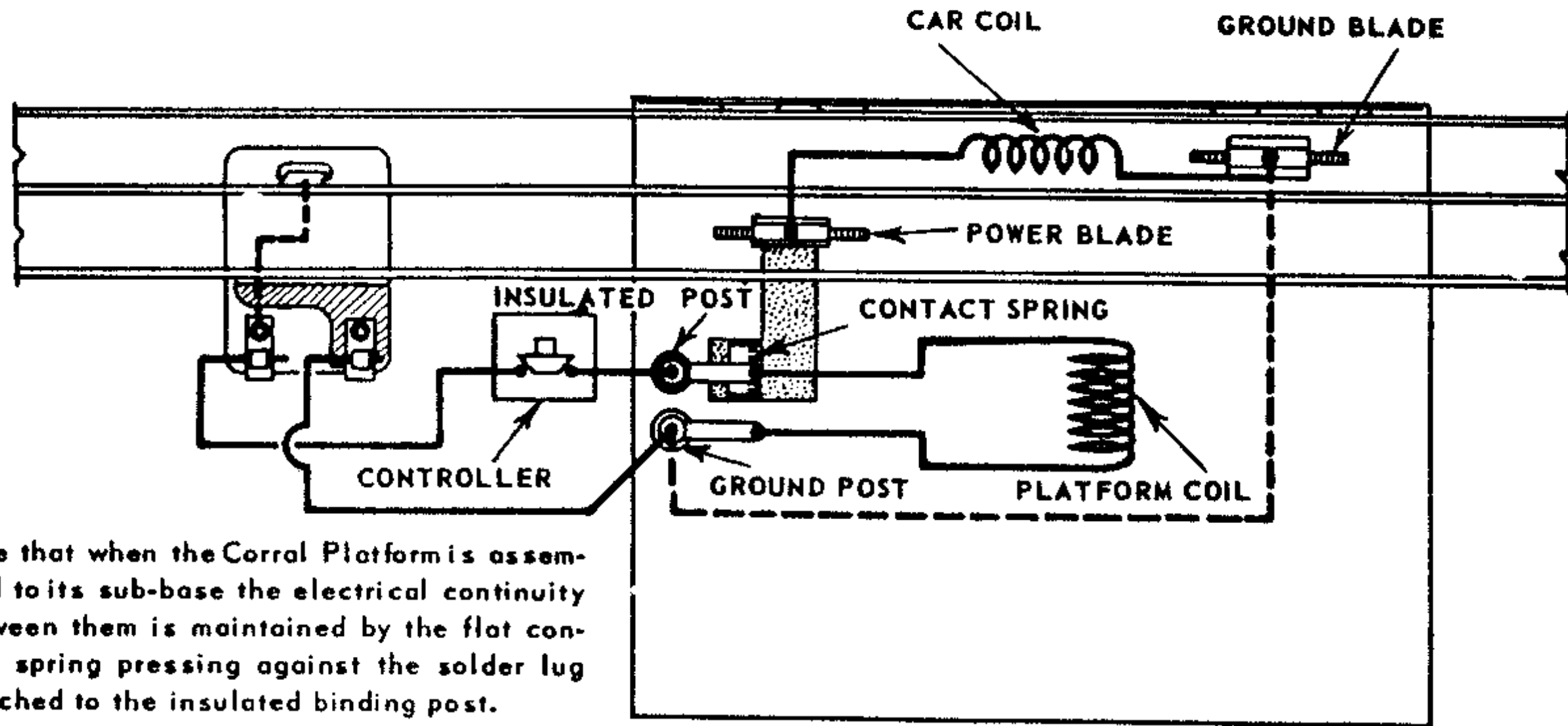
'027' GAUGE POWER BLADE
3656-68

SERVICE MANUAL

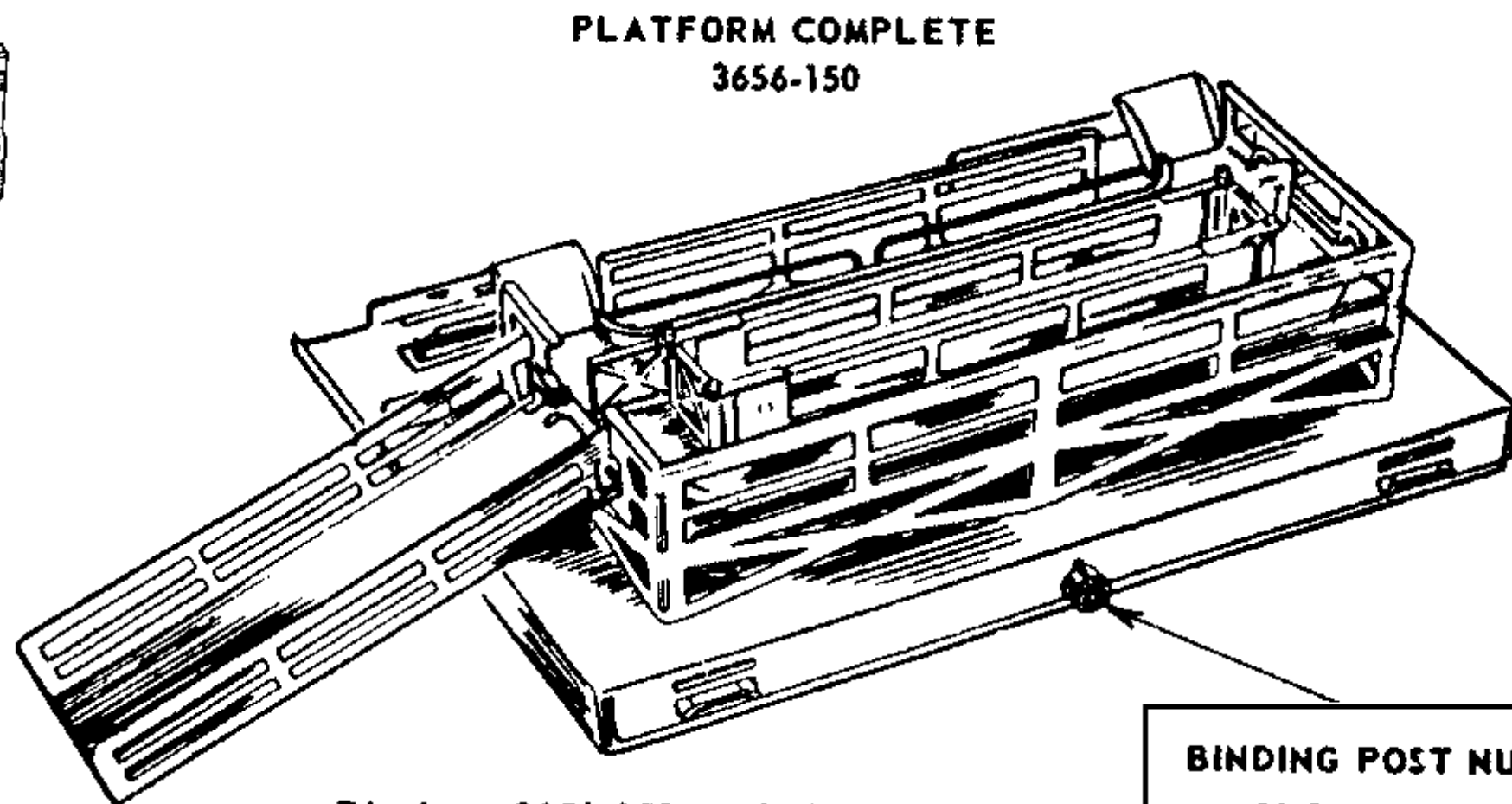
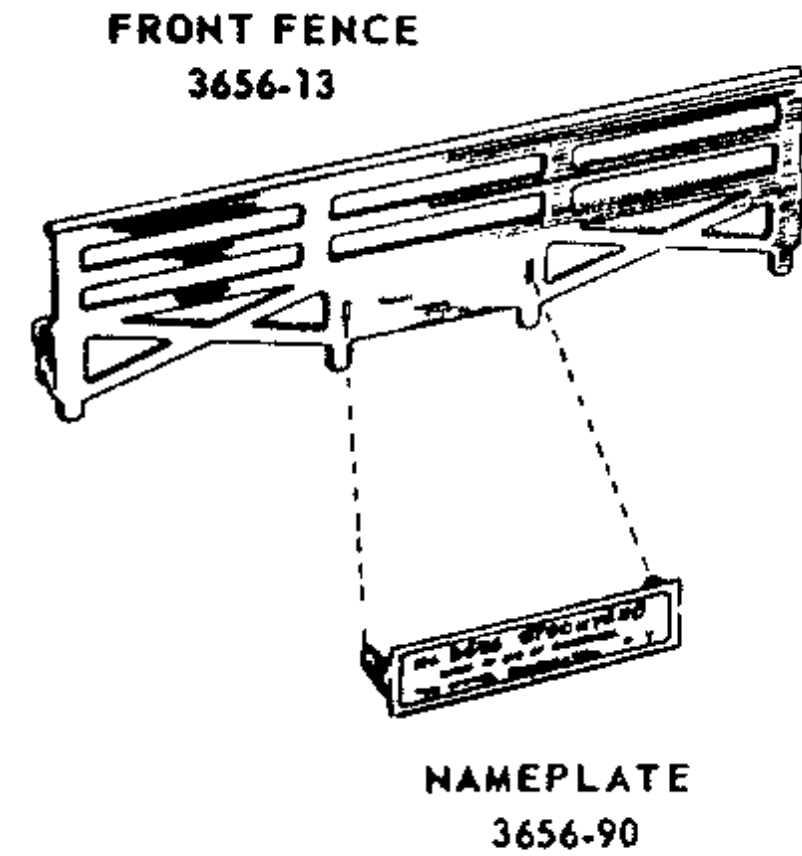
NO. 3656 CORRAL PLATFORM (1950 MODEL)

The 1950 model of the Corral Platform, also produced the following year, differs considerably from the previous model. The vibrating mechanism, the method of mounting the vibrating platform and the electrical contact system were all simplified and completely redesigned. Consequently, most of the component parts of the two Corral Platform models are not interchangeable.

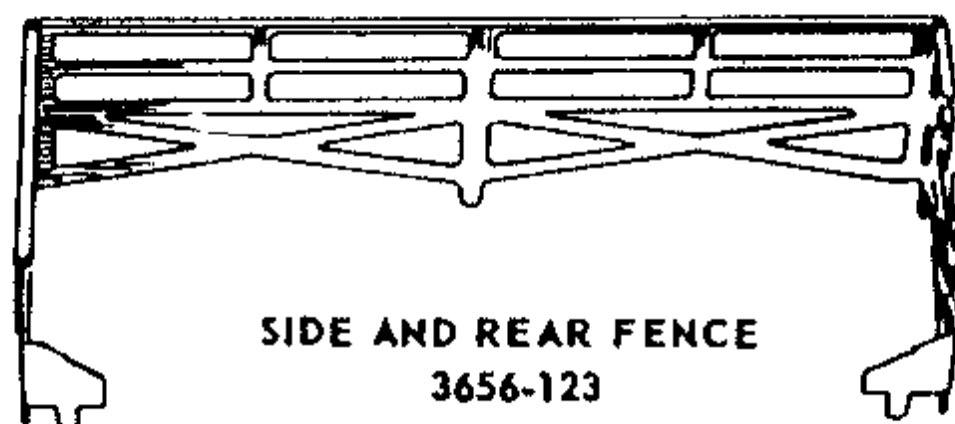
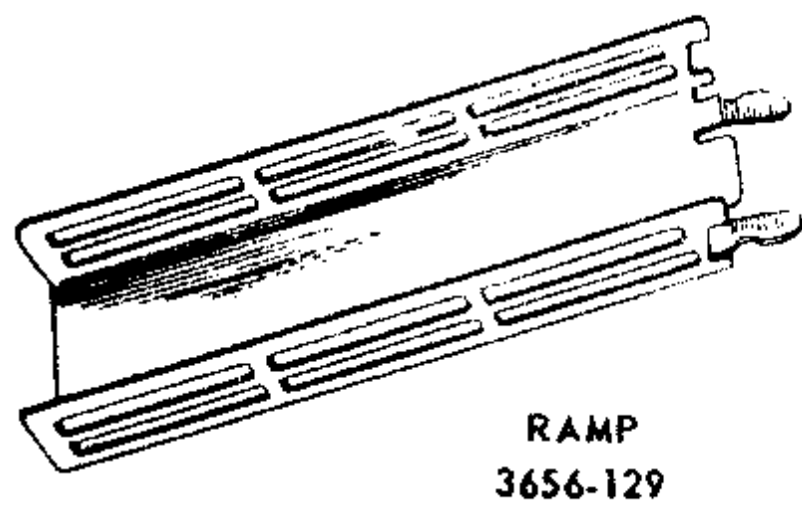
Wiring Diagram of No. 3656 Corral Platform (1950 Model)



Note that when the Corral Platform is assembled to its sub-base the electrical continuity between them is maintained by the flat contact spring pressing against the solder lug attached to the insulated binding post.

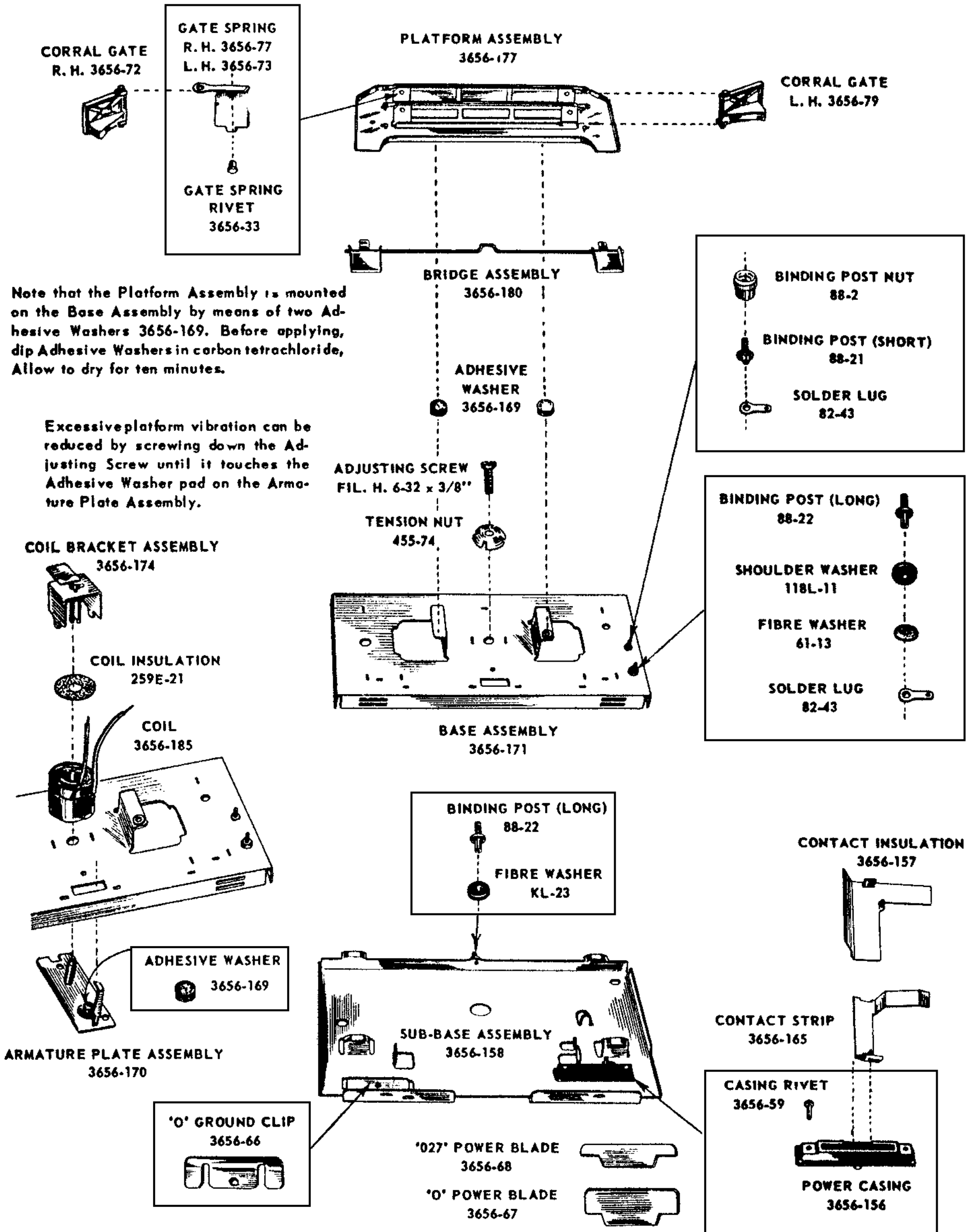


Platform 3656-150 includes ramp controller and all other accessory equipment.



SERVICE MANUAL

OTTP.95



Note that the Platform Assembly is mounted on the Base Assembly by means of two Adhesive Washers 3656-169. Before applying, dip Adhesive Washers in carbon tetrachloride, Allow to dry for ten minutes.

Excessive platform vibration can be reduced by screwing down the Adjusting Screw until it touches the Adhesive Washer pad on the Armature Plate Assembly.

SERVICE MANUAL

OTTP.95

OC-3656
1949 MODEL
PL
4-60
PAGE 1

NO. 3656 - CATTLE CAR - 1949 MODEL

Part Number	Location	Unit Price	Min. Quan.	Description
45-70	H-95	.02	25	Drive Screw (Door Guide)
259E-21	C-61	.02	25	Coil Insulation Washer
480-18	G-52	.03	50	Retaining Washer
483-2	P-41	.75	6	Truck Bottom Plate
715-21	L-41	.10	12	Brakewheel
2020M-34	E-94	pr.10	6 pr	Plunger Spring
2454-5	L-92	.15	4	Door Guide
3656-5	L-96	.50		Sliding Door Assem.
3656-11	E-59	.05	12	Emblem "Armour"
3656-12	L-57	.02		Groove Pin (Double Door)
3656-15	L-106	.30		Runway
3656-16 OS	L-106	.05	12	Grommet
3656-17	L-57	.02	25	Adhesive Washer
3656-18 OS	L-106	.40		Coil Bracket Assem.
3656-21	L-37	.05	12	Spring Pivot Pin
3656-22	Sub. 3656-207			Spring
3656-26	L-67	.60		Double Door
3656-27	D-61	1.00		Frame
3656-28	L-37	.75		Coil Assem.
3656-29	C-25	3.50		Body Assem.
3656-146	M-48	.30		Plunger Assem.
3656-153	M-48	.02	25	Drive Screw (Door Guide)
3656-207	M-75	.10	6	Spring
6464-15	E-45	.02	25	Drive Stud (Brakewheel)
4 x 3/16"		.02	25	RHST "Z" Body Mtg. Screw

CORRAL COMPLETE

2-111	A-61	.02	25	#6 Lockwasher
61-13	A-61	.02	25	Fibre Washer
82-43	G-95	.02	25	Solder Lug
88-2	G-83	.05	25	Binding Post Nut
88-21	H-86	.05	12	Short Binding Post
88-22	H-86	.05	12	Long Binding Post
118L-11	A-71	.02	25	Fibre Shoulder Washer
259E-21	C-61	.02	25	Coil Insulation Washer
364C-1	J-35	1.25		Controller
395-30	J-67	.10	6	Terminal Clip

- continued -

SERVICE MANUAL

OTTE 25

4-60 PAGE 2

NO. 3656 - CATTLE CAR - 1949 MODEL

<u>Part Number</u>	<u>Location</u>	<u>Unit Price</u>	<u>Min. Quan.</u>	<u>Description</u>
480-18	G-52	.03	50	Retaining Washer
3464-16	L-66	.02	25	Spade Bolt Rivet
3656-13	L-27	.30		Front Fence
3656-33	L-57	.02	25	Gate Spring Rivet
3656-34	LC	1.25		Set of Cattle (9)
3656-54	H-7T	2.00		Sub Base Assem.
3656-59	L-57	.05	12	Power Casing Rivet
3656-62	L-67	1.50		Base Assem.
3656-63	M-25	.40		Power Casing
3656-64	L-77	.15	4	Contact Strip
3656-65 OS	M-54	.05	12	Contact Strip Insulation
3656-66	L-87	.10	6	"O" Gauge Ground Clip
3656-67	L-77	.10	6	"O" Gauge Power Blade
3656-68	L-77	.10	6	"027" Gauge Power Blade
3656-71	M-74	.10	6	Platform Grommet
3656-72	L-107	.15	4	Corral Gate RH
3656-73	L-97	.10	6	Gate Spring LH
3656-77	L-97	.10	6	Gate Spring RH
3656-79	L-107	.15	4	Corral Gate LH
3656-83	L-97	.05	12	Lever
3656-85	L-97	.20		Plunger
3656-90	L-86	.10	6	Nameplate
3656-91	L-97	.10	6	Sub Base Grommet
3656-97	E-69	.10	6	Chain
3656-106	J-37	.40		Counter Weight & Plate
3656-113	M-71	.05	12	Spade Bolt
3656-114	M-71	.05	12	Hinge Spring
3656-123	M-71	1.00		Side & Rear Fence
3656-124 OS	M-81	2.00		Platform Assem.
3656-127	M-71	.05	12	Adjusting Sleeve
3656-129	M-81	.30		Ramp
3656-138	M-81	.60		Coil
3656-141	M-91	.05	12	Spacer Tube
3656-142	M-48	.40		Coil Bracket Assem.
3656-143	K-67	.40		Bridge Complete
3656-150	LC	10.00		Platform Complete
CON-8	K-47	.02	25	Washer
CTC-1	LC	.25	12	Lockon
PT-1	H-21	1.00		Basic Truck
TS-70	Sub. 480-18			Retaining Washer
4 x 3/8"		.02	25	Screw

SERVICE MANUAL

REPLACEMENT PARTS FOR NO. 3656 STOCK CAR SET

Part No.	Part Name	List Price	Part No.	Part Name	List Price
2-111	No. 6 Lockwasher	.02	3656-90	Nameplate	.10
45-70	Drive Screw	.02	3656-91	Sub-Base Grommet	.10
61-13	Fibre Washer	.02	3656-97	Chain	.10
82-43	Solder Lug	.02	3656-106	Plate & Counterweight	.25
88-2	Binding Post Nut	.03	3656-113	Spade Bolt	.05
88-21	Binding Post (Short)	.05	3656-114	Hinge Spring	.05
88-22	Binding Post (Long)	.05	3656-124	Platform Assembly	1.50
118L-11	Shoulder Washer	.02	3656-125	Side Fence	.75
259E-21	Coil Insulation	.02	3656-127	Adjusting Sleeve	.05
364C-1	Controller	1.25	3656-129	Ramp	.25
395-30	Terminal Clip	.10	3656-138	Platform Coil	.50
455-74	Tension Nut	.05	3656-141	Spacer Tube	.05
480-18	Retaining Washer (Alternate)	.02	3656-142	Coil Bracket Assembly	.25
483-1	Coupler Truck	1.50	3656-143	Bridge Complete	.25
715-21	Brake Wheel	.10	3656-146	Plunger Assembly	.30
2020M-34	Plunger Spring	.05	3656-150	Platform Complete	12.00
2454-5	Door Guide	.10	3656-156	Power Blade Casing	.25
3464-16	Spade Bolt Rivet	.02	3656-157	Contact Strip Insulation	.05
3656-5	Sliding Door Assembly	.40	3656-158	Sub-Base Assembly	1.50
3656-11	Armour Emblem	.05	3656-165	Contact Strip	.10
3656-12	Groove Pin	.02	3656-169	Adhesive Washer	.02
3656-13	Front Fence	.25	3656-171	Base Assembly	1.25
3656-15	Runway	.25	3656-174	Coil Bracket Assembly	.25
3656-16	Grommet	.05	3656-177	Platform Assembly	1.50
3656-17	Adhesive Washer	.02	3656-180	Bridge Assembly	.40
3656-18	Car Coil Bracket	.25	3656-185	Platform Coil (1950 Model)	.50
3656-21	Spring Pivot Pin	.05	3656-187	Armature Plate Assembly	.25
3656-22	Spring	.10	CTC-1	Lockon	.20
3656-26	Double Door	.50	KL-23	Fibre Washer	.02
3656-27	Car Frame	1.00	TS-70	Retaining Washer (Alt. No. 480-18)	.02
3656-28	Car Coil	.75	4 x 3/16"	S.T.R.H. 'Z' Screw (Body Mtg.)	.02
3656-29	Car Body	3.00	6-32 x 3/8"	Fil. H. Screw (Adjusting)	.02
3656-33	Gate Spring Rivet	.02			
3656-34	Set of Cattle	1.25			
3656-54	Sub-Base Assembly	1.50			
3656-59	Casing Rivet	.05			
3656-62	Base Assembly	1.25			
3656-63	Power Blade Casing	.30			
3656-64	Contact Strip	.10			
3656-65	Contact Strip Insulation	.05			
3656-66	'O' Ground Clip	.10			
3656-67	'O' Power Blade	.10			
3656-68	'027' Power Blade	.10			
3656-71	Platform Grommet	.10			
3656-72	Gate R. H.	.10			
3656-73	Gate Spring L. H.	.15			
3656-77	Gate Spring R. H.	.15			
3656-79	Gate L. H.	.10			
3656-83	Lever	.05			
3656-85	Platform Plunger	.15			

SERVICE MANUAL

NO. 3656 - CATTLE CAR - 1950 MODEL

<u>Part Number</u>	<u>Location</u>	<u>Unit Price</u>	<u>Min. Quan.</u>	<u>Description</u>
480-18	G-51	.03	50	Retaining Washer
483-2	G-38	.75	6	Truck Baseplate With Shoe
715-21	L-41	.10	12	Brakewheel
2454-5	L-92	.15	4	Door Guide
3656-6	L-96	.50		Sliding Door Assem.
3656-11	E-59	.05	12	"Armour" Emblem
3656-12	L-57	.02		Double Door Groove Pin
3656-15	L-106	.30		Runway
3656-16	L-106	.05	12	Grommet
3656-17	L-57	.02	25	Adhesive Washer
3656-18	L-106	.40		Coil Bracket
3656-21	L-37	.05	12	Spring Pivot Pin
3656-23	E-88	.30		Plunger Assem.
3656-26	L-67	.60		Double Door
3656-27	D-61	1.00		Frame
3656-29	C-25	3.50		Body
3656-153	M-48	.02	25	Door Guide Drive Screw
3656-189	M-85	.75		Coil Assem.
3656-207	M-75	.10	6	Spring (Top of Plunger)
6464-15	E-45	.02	25	Brakewheel Stud
PT-1	H-21	1.00		Basic Truck
WS-147	G-53	pr .10	6 pr	Plunger Spring
4 x 3/16"		.02	25	RHCT "Z" Body Mtg. Screw

CORRAL PLATFORM

61-13	A-61	.02	25	Fibre Washer
88-2	G-53	.05	25	Binding Post Nut
88-21	H-86	.05	12	Short Binding Post
88-22	H-86	.05	12	Long Binding Post
118L-11	A-71	.02	25	Shoulder Washer
259E-21	C-61	.02	25	Coil Insulation
364C-1	J-35	1.25		Controller
455-74	K-63	.05	12	Tension Nut
3656-13	L-27	.30		Front Fence
3656-33	L-57	.02	25	Gate Spring Rivet

- continued -

SERVICE MANUAL

CORRAL PLATFORM

<u>Part Number</u>	<u>Location</u>	<u>Unit Price</u>	<u>Min. Quan.</u>	<u>Description</u>
3656-34	LC	1.25		Set of Cattle
3656-54	H-7T	.00		Sub-Base Assem.
3656-59	L-57	.05	12	Casing Rivet
3656-66	L-87	.10	6	"O" Gauge Ground Clip
3656-67	L-77	.10	6	"O" Gauge Power Blade
3656-68	L-77	.10	6	"027" Gauge Power Blade
3656-72	L-107	.15	4	Gate RH
3656-73	L-97	.10	6	Gate Spring LH
3656-77	L-97	.10	6	Gate Spring RH
3656-79	L-107	.15	4	Gate LH
3656-90	L-86	.10	6	Nameplate
3656-123	M-71	1.00		Side & Rear Fence
3656-129	M-81	.30		Ramp
3656-150	LC	10.00		Platform Complete
3656-156	M-68	.30		Power Blade Casing
3656-157	M-68	.05	12	Contact Strip Insulation
3656-158	M-83	2.00		Sub-Base Assem.
3656-165	M-75	.15	4	Contact Strip
3656-170	M-16	.40		Armature Plate Assem.
3656-171	M-44	1.50		Base Assem.
3656-174	M-85	.30		Coil Bracket Assem.
3656-177	M-25	2.00		Vibrating Platform Assem.
3656-180	M-84	.40		Bridge Assem.
3656-185	M-34	.60		Platform Coil
CTC-1	LC	.25	12	Lockon
KL-23	G-85	.02	25	Fibre Washer
4 x 3/16"		.02	25	RHST "Z" Body.Mtg. Screw
6-32 x 3/8"		.02	25	Fil. H. Adjusting Screw