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Duplicate

Construction Zone Manual

Ride Manual with Set Up, Maintenance, Operation and Safety Instructions

Chapter

1

The Construction Zone Ride

Serial Number 7-99

Overview

The Construction Zone is a trailer-mounted six vehicle "family ride." When unfolded, the ride is on a 32'X32' platform complete with attached scenery and fencing. The vehicles are "Dump Trucks." Each consists of a fiberglass cab and an aluminum dump bed. The vehicles are attached to sweeps that travel around a center.

The aluminum-decked platform consists of the trailer, a rear apron to which the scenery is attached and a front apron which angles down toward the queue line and midway. In the middle of the trailer portion of the platform is the center, which turns the ride and is powered by a 7-1/2 h.p. motor with a 40:1 gearbox and a hydrosheave. The winch, most of the electrical boxes, and the mechanical light chaser are also attached to the center.

The rear apron has a hill built into it and the front apron has a "dump track" built into it. The "dump track" is designed to elevate a caster connected to the dump bed resulting in a gentle dumping motion for the passengers in the bed. These features in conjunction with the slant of the front apron give the ride lots of motion compared to a simple circular ride.

For traveling, the vehicles are removed from the sweeps, the sweeps fold up around the center, and the vehicles line up between the aprons on the trailer. The aprons of the platform are then winched up at right angles for a van appearance. The Construction Zone can be pulled with a 1-ton pick-up truck.

The electrical system includes 220v 3-phase 5 h.p. motor, 220v for the quartz lights, 110v for the chasing lights, and 12v for all lighting attached in the vehicles. The operator's station includes 1) an *On* button to turn the ride on, (there is an adjustable timer which automatically turns the ride off), 2) an *Emergency Stop* button which turns off power to the ride, the chasing lights, the horn and the 12v lights in the vehicles, (the quartz lights remain on to assist if there is an emergency, 3) an *On/Off* switch for the quartz lights 4) an *On/Off* switch for the chasing lights and (5) a push button for the air horn.

The vehicles are built to hold a maximum of eight children: two in the cab and three each in the two seats in the dump bed. The rear seat in the dump bed is large enough to accommodate one or two adults as an alternative. The passenger restraints are nylon seat belts clasped with an adjustable buckle.

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2

Set Up and Dismantling Instructions

Place the Trailer on Location

- Choose a flat area approximately 32' X 40'
- Put the ride in the position where you will operate it. Level as much as possible, using blocking under tires, if necessary. Raise the front end of the ride with the front jacks and remove the towing vehicle.
- To make the trailer stable, extend the jacks at the four corners of the trailer until the weight of the trailer is not being supported by the tires. If this is not done, the remaining jacks under the ride will not give the proper support.
- Adjust landing gear until trailer is level. (Fig. 1)
- Remove the personnel door on the side of the trailer by pulling the two pins and placing the door outside the trailer against the tire. Climb into the middle where the jacks are.
- Adjust middle jacks until they hold weight equal to the front and rear jacks and they are level. (Fig. 2)
- Unpin the "CONSTRUCTION ZONE" sign hold down pin on the front apron of the ride. This will avoid the necessity for personnel to be under the apron as it is being lowered. This pin is located above and to the left side of the personnel door.

Setting the steel frame

- Before starting with the sub frame, unwind the electrical cable stored on top of the gooseneck. Then remove from the gooseneck enough wood blocks and jacks to take care of one side of the trailer. Place the jacks and wood blocks in the approximate locations where they are to be used. With a little practice, it will become easy to spot these locations.
- The sub frame is held in place with retainers. Unpin a retainer, pull it out of the socket, turn it half way around and reinsert it in the socket. Reinsert the pin and lock it with a Klik-pin. In this way, you will avoid keeping track of loose pieces.
- When removing the sub frame in the rear end of the trailer, always pull out the end of the sub frame closest to the end of the trailer, before swinging out the other end of the sub frame (Fig. 4). In behind the first section of the sub frame is a second one, and it must be removed by pulling outward on the end nearest the end of the trailer, before swinging out the other end.
- Put sub frame pieces in place using proper jacks. The jacks are color-coded gray to go under the front apron, and black for the back apron. The sub frames are color-coded the same way (Fig. 4 & 5).

FIG. 1

FIG. 2

FIG. 3

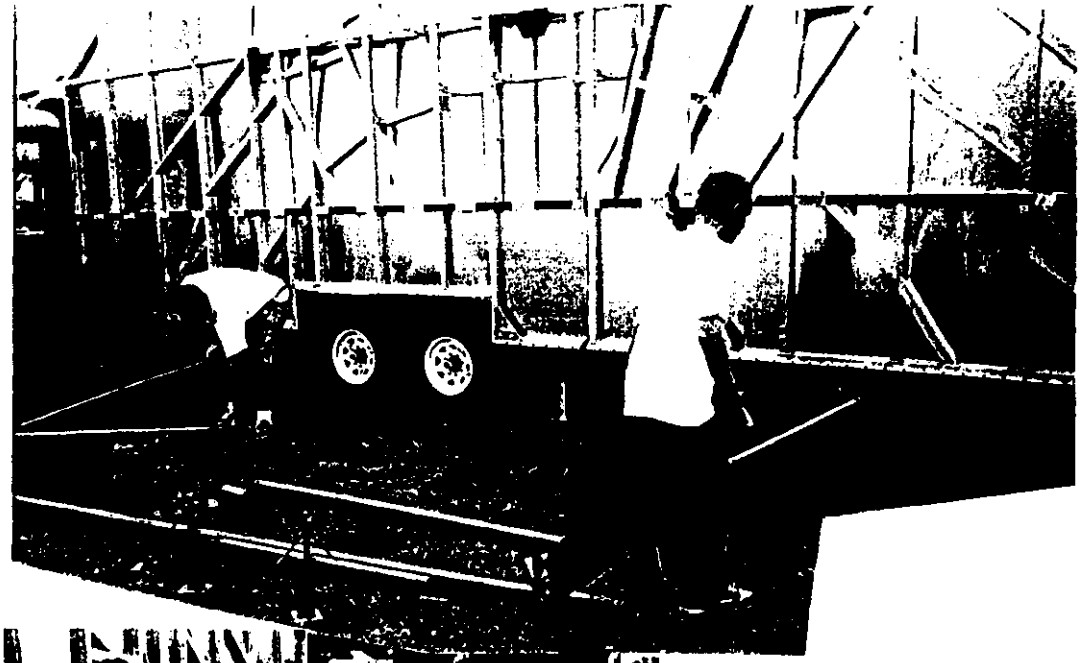


FIG. 4

FIG. 5

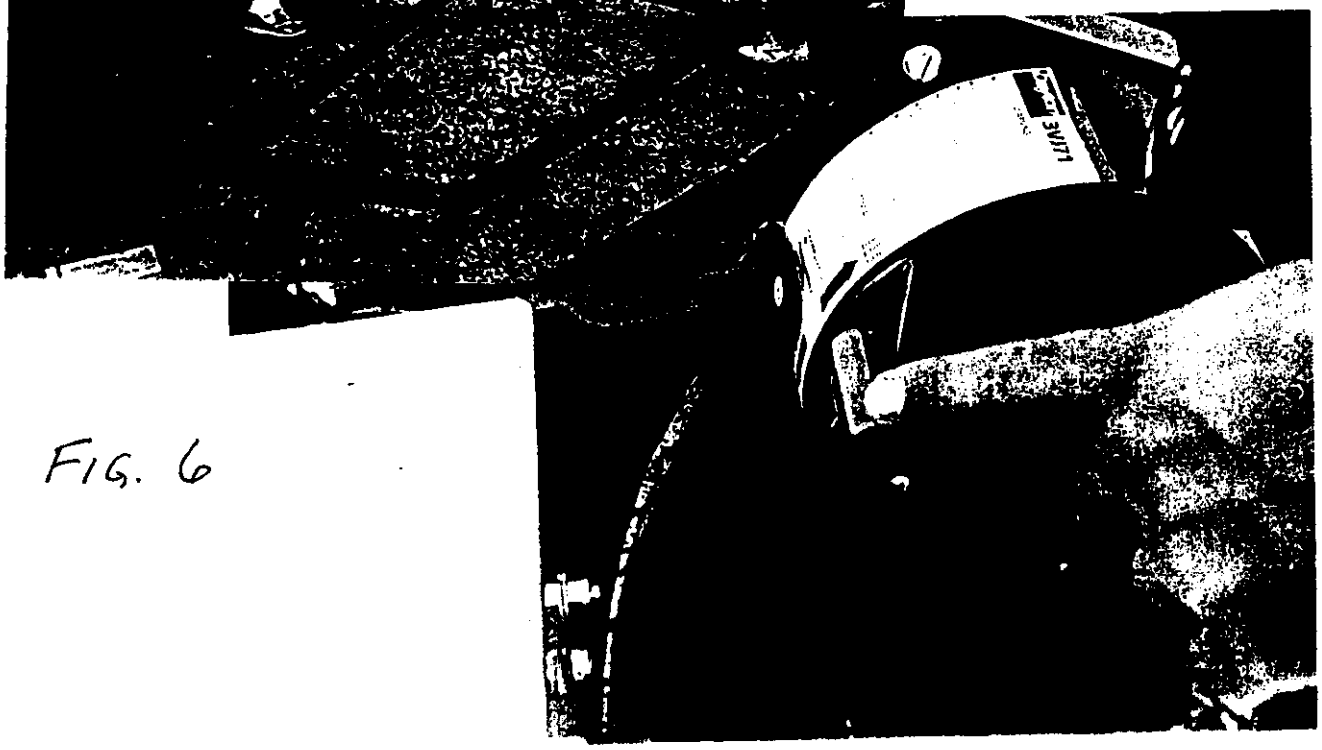


FIG. 6

- When placing the jacks under the sub frame, position those first around the outside, leaving the two center jacks for the last. In this way, the sections will fit together most easily.

- Check to be sure the framing is leveled properly. The rear framing should be level with the trailer and the front framing should have a 4 degree slant downward to the front. There are level bubbles in the sub frame sections, and they have been preset to produce the proper position of the aprons. Make sure all leveling bubbles are centered.

- The wood blocks are supplied for placing under each jack to provide a bigger "footprint" for each jack. Occasionally, you may find that the slope of the ground will not allow the wood blocks to be used, in which case the jacks will need to be placed right on the ground.

Opening and Lowering the Aprons

WARNING: WHEN THE WINCH IS ATTACHED TO EITHER THE FRONT OR THE REAR APRON, ALWAYS HAVE IT SWITCHED TO THE FORWARD OR REVERSE POSITION, NOT IN THE NEUTRAL POSITION. THE REMOTE CONTROL HAS ONLY FORWARD AND REVERSE POSITIONS. NEUTRAL WILL BE FOUND ONLY AT THE WINCH. THE ONLY TIME YOU SHOULD USE THE NEUTRAL IS WHEN YOU ARE TRYING TO PULL OUT THE WINCH CABLE IN A FREEWHEELING CONDITION. IF YOU TRY TO LOWER AN APRON WITH THE WINCH CONTROL IN NEUTRAL, THE APRON WILL FALL AND CAUSE INJURY TO ANYONE UNDER THE RIDE AND DAMAGE THE RIDE SEVERELY.

Check that both aprons are properly connected to the centerpole and that the winch lever is engaged - NOT in neutral (Fig. 6).

- Remove the two pins from the top of the trailer that connect the front and rear aprons together. (Fig. 7). These pins lock together the folded front and back aprons. Each pin has a T-handle, and is secured with a Klik-pin. Attempt to turn the T-handle; if it will turn freely then you will be able to remove the pin easily. If it cannot be turned easily, slacken the winch cable by touching the reverse direction on the remote control until the pin can be turned. Then remove the pins.
-

  NOTE: WHEN DISMANTLING THE RIDE YOU MAY FIND THAT THESE PIN HOLES DO NOT EXACTLY LINE UP. THIS CAN BE CAUSED BY ONE OR MORE CORNERS OF THE TRAILER SETTLING INTO SOFT GROUND. IF THIS HAPPENS THE HOLES CAN USUALLY BE BROUGHT INTO LINE BY ADJUSTING THE TRAILER JACKS.

- Lower rear apron by running the cable out of the winch. In the folded position, the weight of the apron is over center. Because of this, the apron will have to be pushed out by hand for the first few inches. (Fig. 8)

- When the apron comes down to shoulder level, unpin the apron jack stands located around the outside of the aprons, repinning them in their shortest position. They will fall into place as the apron is lowered. The "rock" is to remain pinned to the back apron at this time, because if it becomes loose wind might blow it against the cars, damaging them. Make sure all jack stands are in position before aprons are completely lowered. (Fig. 9)

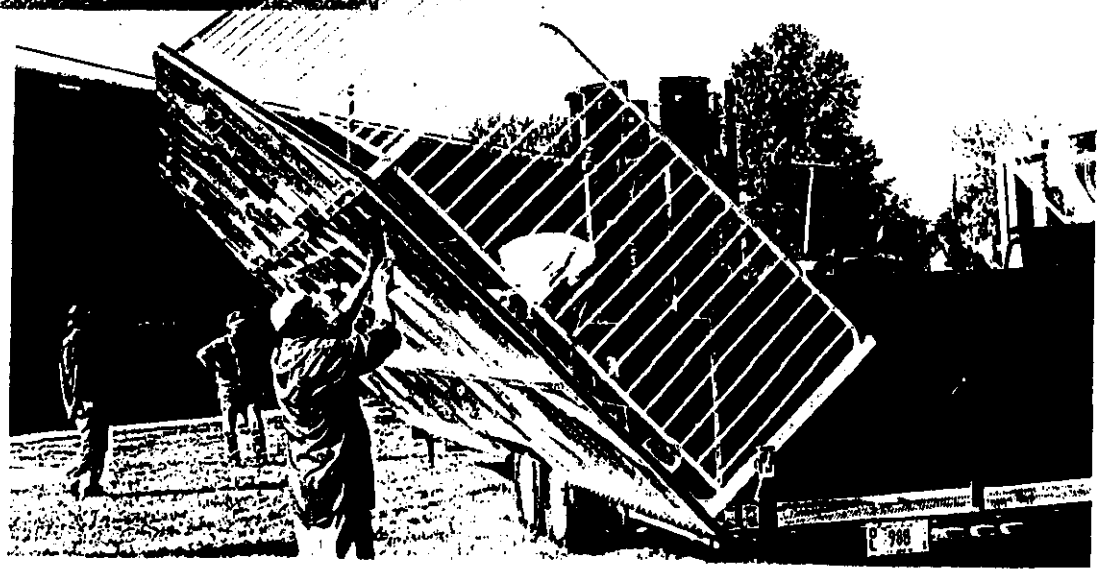
- FOR SAFETY, PERSONNEL SHOULD ALWAYS STAND AND WORK OUTSIDE THE PERIMETER OF THE APRON, NOT UNDERNEATH.

- Lower the rear apron until it is level with the main trailer deck. DO NOT LOWER BEYOND THE LEVEL POSITION OR YOU MAY DAMAGE THE STRUCTURAL TUBING OF THE APRON. If you have properly leveled the sub frame, then lowering the apron to the sub frame will not go below the proper position.

FIG. 7 →

← FIG. 8

FIG. 9 →



- Remove the cable hook and attach it to the eye on the front apron. (Fig. 10) Tighten the cable to take pressure off the locking bar.

- Unpin the locking bar.

- With the rear apron all the way down, disconnect the winch cable from the rear apron, and re-direct it over the second pulley at the top of the "horse head". The front apron is locked to the center pole with a locking bar. Hook the winch cable hook into the horse head, and tighten the winch cable until pressure be will be taken off of the pin in the locking bar. Remove the pin, and let the locking bar swing down.

- Slacken the winch cable, while you push against the front apron to get it started over-center. Begin lowering the apron. When the apron comes down to shoulder level, stop the winch and unpin the apron jack stands located around the outside of the aprons. They will fall into place as the apron is lowered. (Fig. 11) Make sure all jack stands are in position before the apron is completely lowered.

- Lower the apron to the 4-degree slant downward toward the front. If the sub frame has been properly leveled, the apron will be in the proper 4-degree position when it touches off on the sub frame. The bubbles in the sub frame have been pre-set at the 4-degree position. DO NOT LOWER BEYOND THE 4-DEGREE POINT OR YOU MAY DAMAGE THE STRUCTURAL TUBING OF THE APRON.

Adjusting the Apron Jacks and Installing the Steps

- The jacks will swing down into position as the aprons are lowered, but they must be adjusted downward until they are firmly pressing against the ground. If they are not, the vibration may cause them to "walk" so they will not give proper support to the apron deck. The decking will be springy under foot. (Fig. 12)

- Do not install the steps until the apron jacks are properly tightened, because the installed step is so close to the nearby jack, that the handle on the jack cannot be turned.

- Insert the two pins on each step, and reach back underneath to lock in place with a large Klik-pin on each step pin.

Setting the Fence and Front Marquee Upright

WARNING: UNTIL THE BRACING TUBES ARE PINNED IN PLACE, FRONT SIGN WILL FALL IF LEFT UNATTENDED.

- At this point you will have no further use for the winch, and so you should wind up the cable to get it out of the way. Keep tension on the cable hook, so that the cable will wind evenly onto the winch drum.

- The bracing tubes for the marquee are attached to the sweep that is on the side nearest the rear end of the trailer. Remove them and position each one at one end of the marquee.

- The marquee as stored is telescoped to a shorter position. Remove the two pins on each end, slide the sign to the extended position, and re-pin each end. (Fig. 13) This can be done after the front is raised, but because of the weight involved it will require more help. Extending the marquee on the ground can be done easily by two persons.

FIG. 10

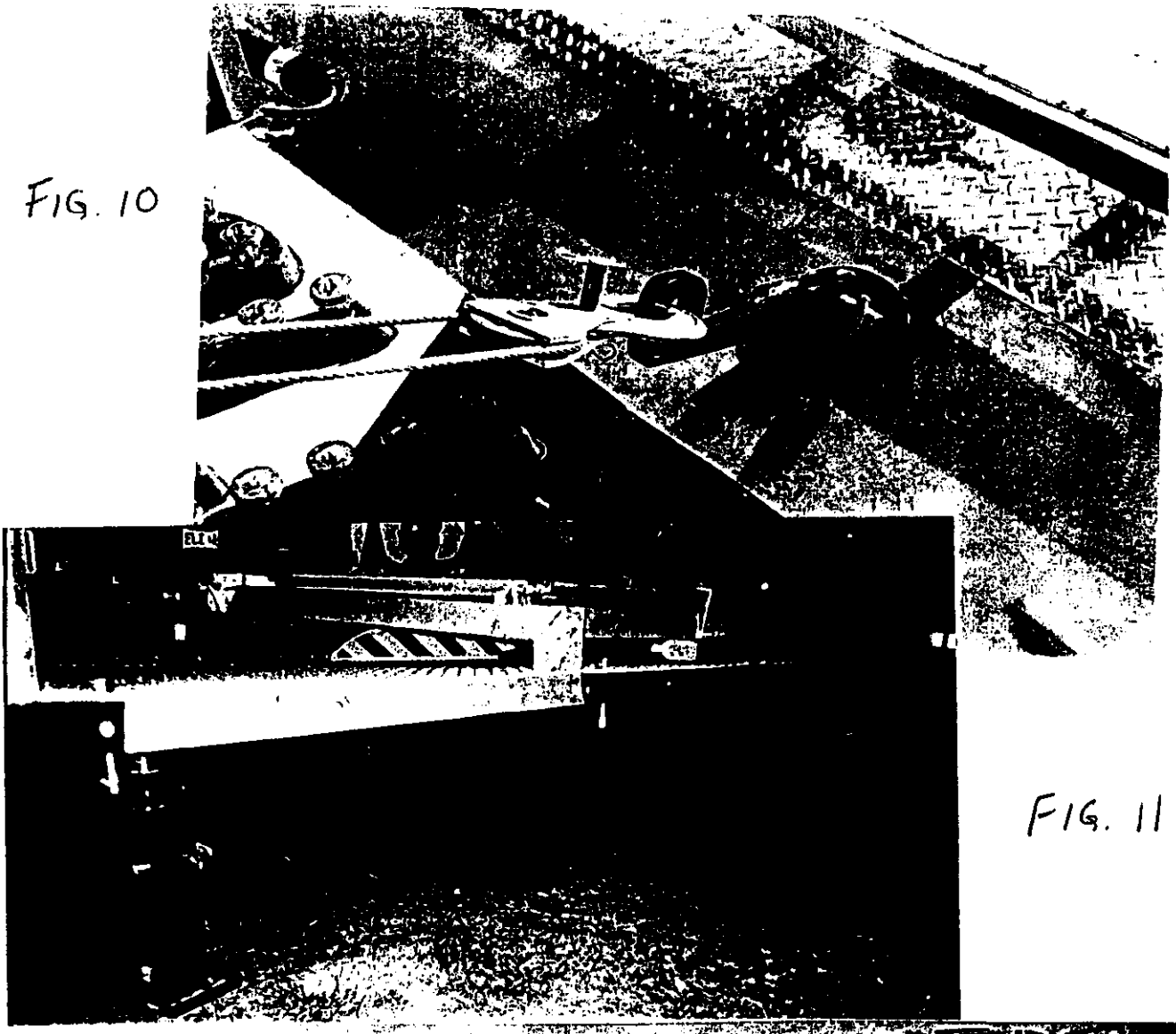


FIG. 11

FIG. 12

- Swing the marquee up into the vertical position, (Fig. 14) and install the bracing tube first on the exit end. The bracing tube has a hook on the lower end which must be engaged in the shaft below the floor level. (Fig. 15) To install the bracing tube, let the upper end extend back toward the rear of the ride. Then, when the hook is fitted around the shaft, raise the bracing tube to where it can be pinned to the top of the marquee. (Fig. 16) There is a cross shaft at the bottom of the bracing tube that will bear against the top of the floor when installed. This cross shaft will prevent the hook from disengaging.

- With the bracing tube installed on the exit end, go to the other end and un-pin the entrance gate where it is stored. With the gate closed, the remaining bracing tube can be installed.

- Reposition the quartz lights where they are stored on the front of the sign. Remove the locking pin, pull out the tube to which the quartz light is fastened, reverse it, so that the light is facing toward the ride, and re-install it. Lock it in place with a pin and Klik-pin. (Fig. 17)

Preparing Scenery and Deck

- There is a BUMP sign stored on the back of the wing scenery. Remove it, turn it around, and insert the two flags. Then drop the sign into the socket.

- Un-pin the wing scenery from the back scenery, and swing it around until it bumps against the backstop on the lower scenery. Lock it in position with a pin and Klik-pin.

- Climb the folding steps on the back side of the scenery. As you climb you will pass the pin that locks the Empire State building in the stored position. Remove the Klik-pin as you pass by it. When you reach the top, reach over and pull the Empire State building up into the vertical position. Place a locking pin in each end, and secure with a Klik-pin. (Fig. 18)

- While you are up there, remove the CAUTION sign, and re-position it so that it sticks up. Install the two flags.

- Back on the ground, replace the personnel door, and pin it in place. The door will stay in place without pinning, but if you re-install the two pins they will be there when you need them.

- Drop in place the wheel well cover over the hole next to the tires. There is no provision for pinning it in place. NOTE: Be sure to remove this when dismantling the ride or you will bend it when the aprons are folded up.

- Unpin the wheel fender. The pins are attached on the underneath side. When they are removed, the top of the fender can be pushed down until it rests on top of the tire. If this is not done the sweeps will hit the fenders when the ride is turning. Check to be sure that the fender will go all the way down to the tire.

- A number of items are stored next to the center pole. Remove them and place them outside of the ride at this time. It is much easier to do this at this time before the sweeps are lowered into position.

FIG. 13

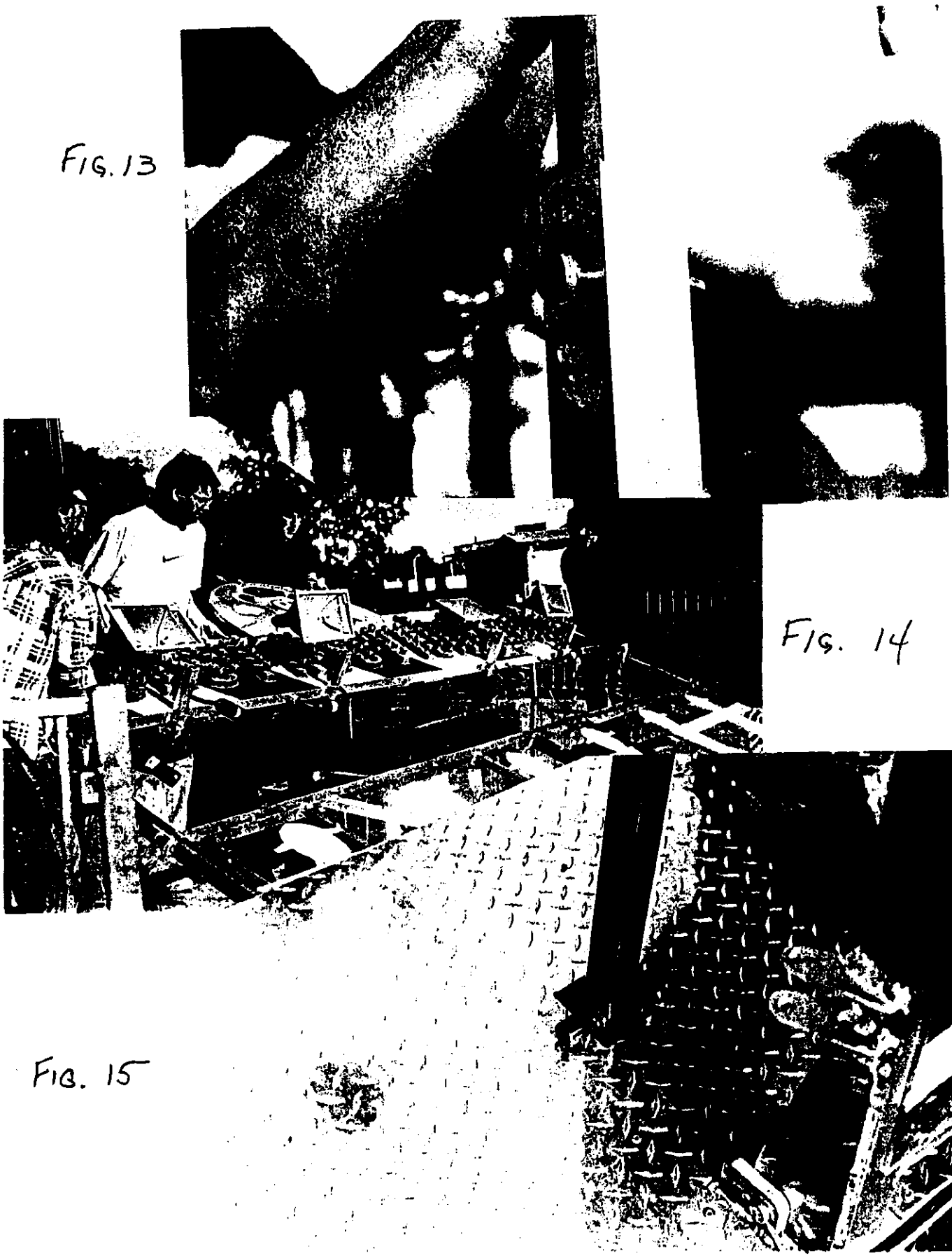


FIG. 14

FIG. 15

FIG. 16

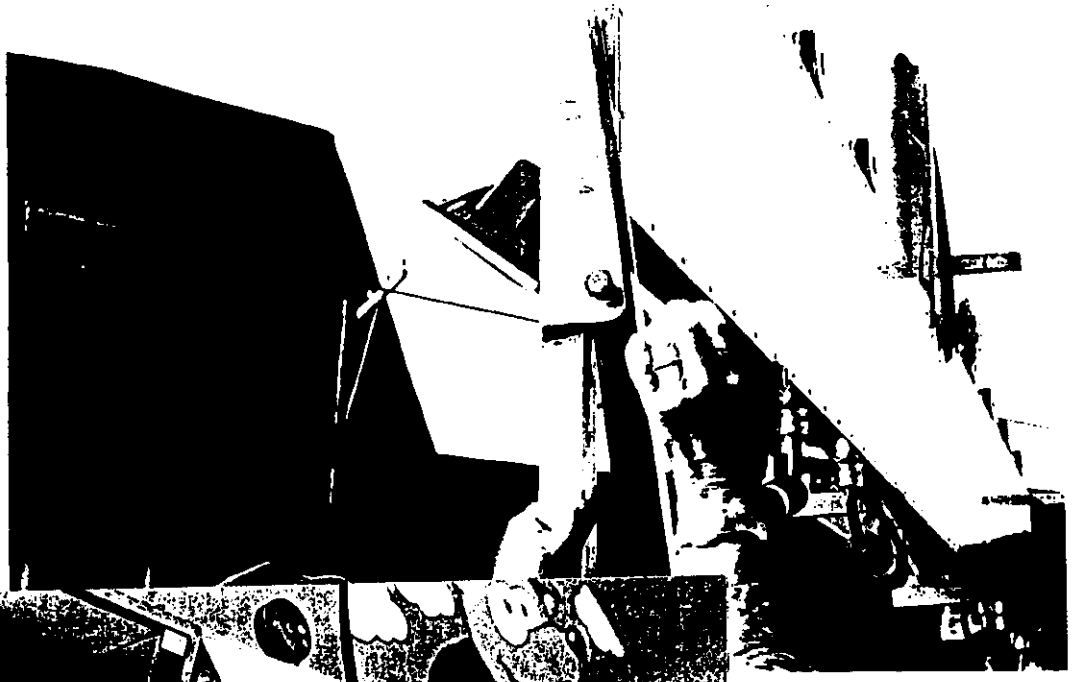


FIG. 17

FIG. 18

Attaching Dump Trucks to Sweeps

WARNING: DO NOT ROTATE THE RIDE WITH ANY SWEEPS IN THE FOLDED POSITION. DOING SO WILL DAMAGE THE TABS ON THE CENTERPOLE.

WARNING: DO NOT ROTATE THE RIDE WITH BOTTOM CENTERPOLE BRACE OR TOP CENTERPOLE BRACE IN PLACE. DOING SO WILL CAUSE DAMAGE TO THE RIDE.

- Remove dump trucks from storing saddles by bumping each truck until it jumps out of the saddle. Then lift out the storing saddle and place it outside of the ride. NOTE: These storing saddles must be under the car tires in order to hold the cars in proper position while traveling on the highway. With the tires out of the saddles, the cars may want to roll, and so it may be necessary to chock the wheels.
- The cars are stored side by side, so that two of them are toward the rear end of the trailer, and the remaining four are toward the front end of the trailer.
- The cars should be placed so that the numbers run counterclockwise. Start at the two cars that are stored toward the rear end of the trailer. Move the one nearest the center pole forward toward the back scenery so that it doesn't interfere with the hill, and then roll the remaining car back toward the center pole, keeping it away from the dumping ramp.
- Next, roll the car closest to the center pole around to the other end of the dumping ramp. Roll the car along the dumping ramp. Watch the clearance between the bumper and the dumping ramp.
- Then, move the next car out to the beginning of the dumping ramp.
- The third car should be rolled toward the back scenery so it is close to the hill.
- The fourth car is to be moved closer to the center pole.
- Remove the top center pole brace and the horse head from the center ring, (Fig. 19 & 20) and then the bottom center pole brace from its connection at the center ring and the floor of the trailer.
- The horse head is pinned to the top of the center pole. Remove the pins and lift off the horse head. (Fig. 21) Place it outside of the ride.
- Slip on the critter downstop so that the critter will have a place to position it vertically (Fig. 22)
- Unpin the rock where it is stored on the rear apron, by reaching back underneath from the outside. It should not be necessary to get under the ride to do this. Carry the rock to the center pole and lower it down until the pins on the four corners pass through the center ring (Fig. 23). Lock each pin with a hairpin cotter.
- Next, lower the critter down onto the center pole until it touches the downstop. It can be turned in any direction, but it should normally be facing forward. It will not turn with the ride (Fig. 24 & 25).
- Unpin the sweeps from the sweep storage link. Repin the link to the centerpole. (Fig. 26 & 27)
- Carefully lower the sweep down into position.

FIG. 19

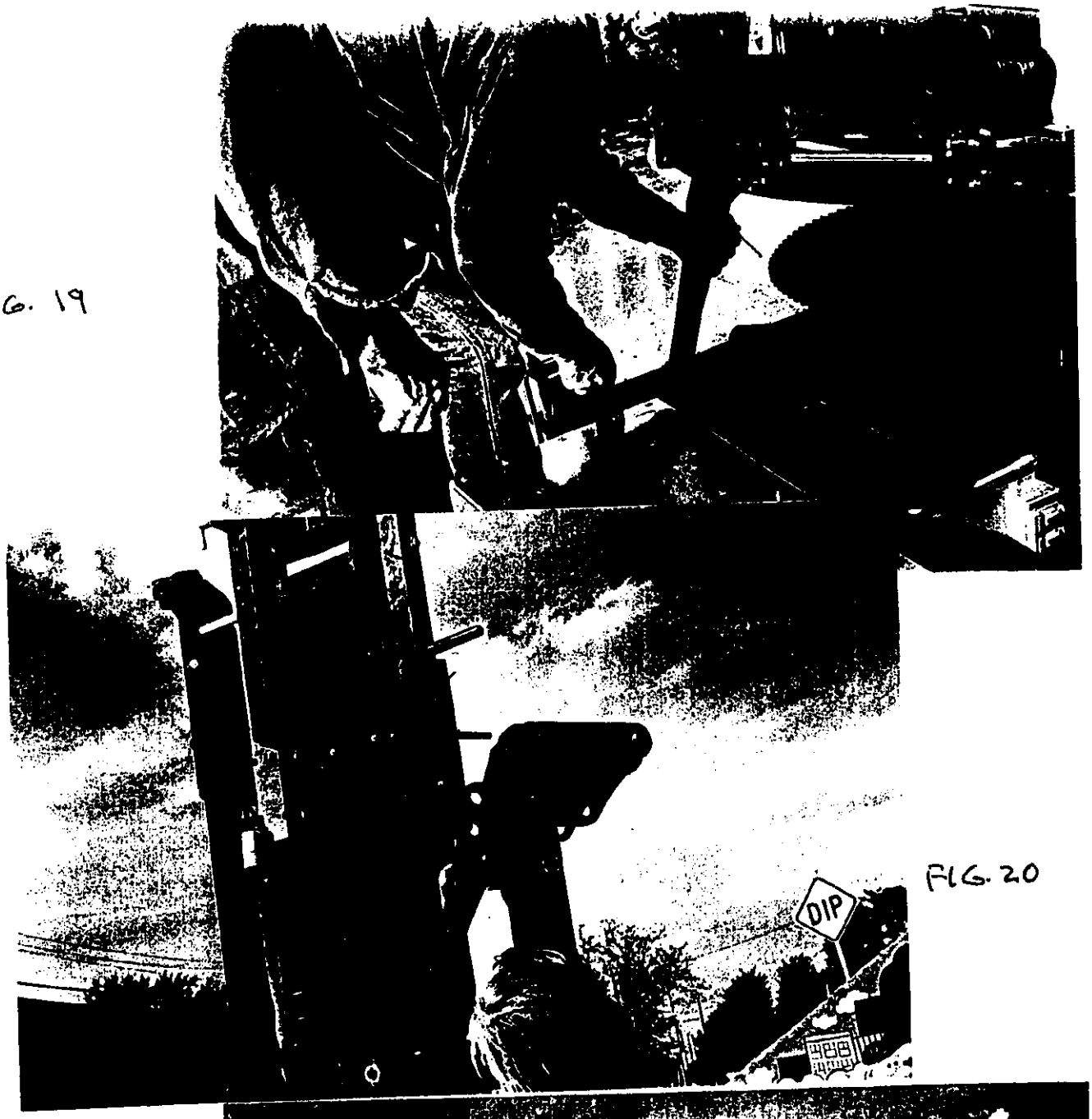


FIG. 20

FIG. 21

FIG. 22

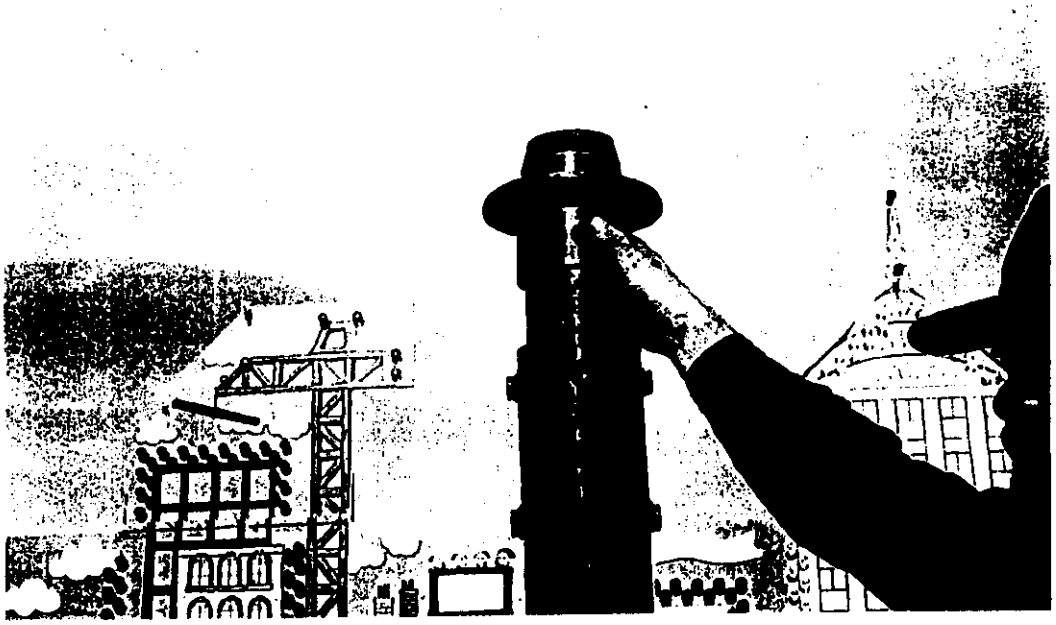


FIG. 23

FIG. 24

FIG. 25

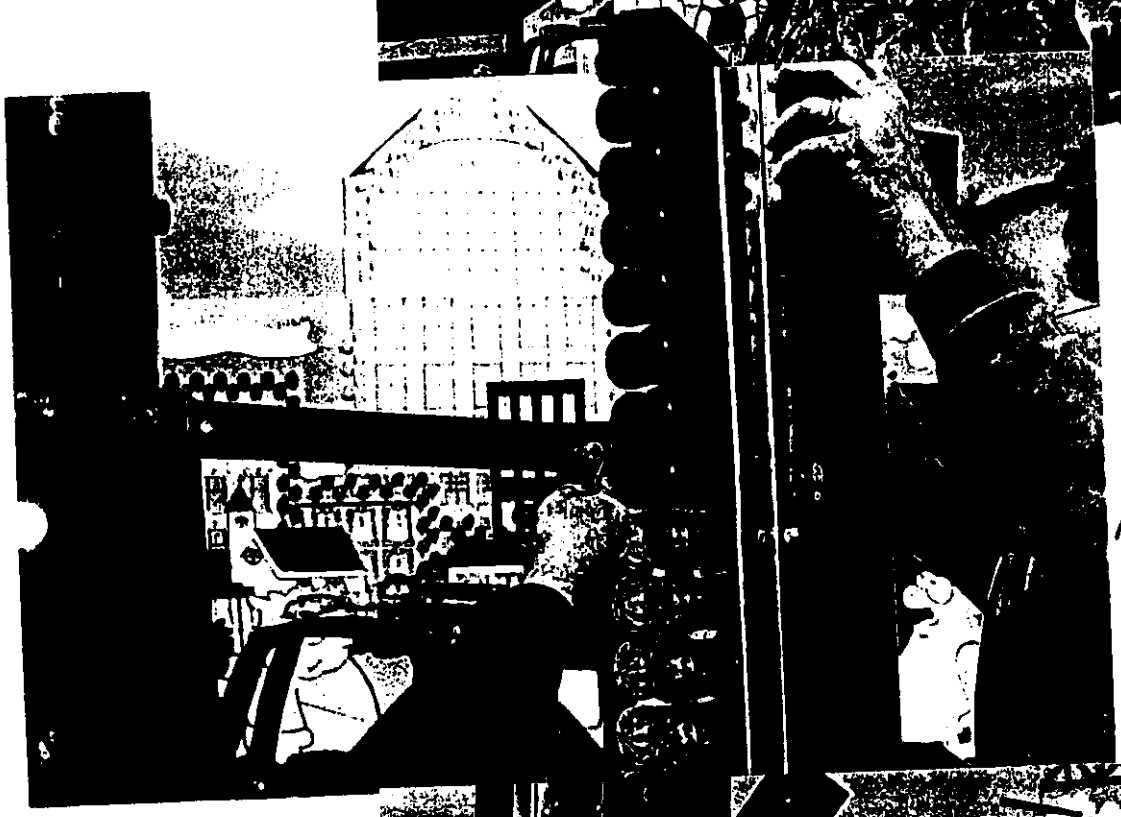


FIG. 26

FIG. 27

- Hold the sweep up by the pivot handle and remove the sweep hitch pin. (Fig. 28)
- Open the sweep end by pushing down on the leg handle.
- Lower the sweep to the floor, letting it rest on the bumper on the sweep end leg. (Fig. 29)
- BE CAREFUL TO HOLD THE END BY THE SIDE HANDLES. DO NOT PUT YOUR FINGERS IN OR AROUND THE END CONNECTOR AS IT IS CLOSING.
- Roll the dump truck into place, lining the truck tires up with the running pattern on the decking.
- Unpin the truck hitch and lower it into the sweep end. (Fig. 30 & 31)
- Roll the truck into alignment with the sweep end and set the brass bushing in the connecting slot.
- Fold the sweep end closed and pin in place, being careful to hold the side handles. (Fig. 32) Secure with klik pins. Repeat for each vehicle.
- Plug in each vehicle to the plug coming out of the sweep.

Attaching Canvas and Skirting

- Attach sweep canvas to the sweeps and turn fasteners ¼ turn to secure them. (Fig. 33) Alternate black and yellow.
- Move all loose parts forward for storing under the gooseneck.
- Unroll the goosemneck skirting and wrap it around the gooseneck. Attach it to the gooseneck with the Velcro, being careful not to let the Velcro touch the ground.
- Feed the perimeter skirting around the ride and attach the Velcro.
- When the skirting passes around the rear end of the trailer, there is no Velcro, but there are ¼ turn fasteners.
- Finally, unpin the EXIT gate and swing it into position.
- Test all lights to be sure they are working. Replace any burned out bulbs or broken covers.

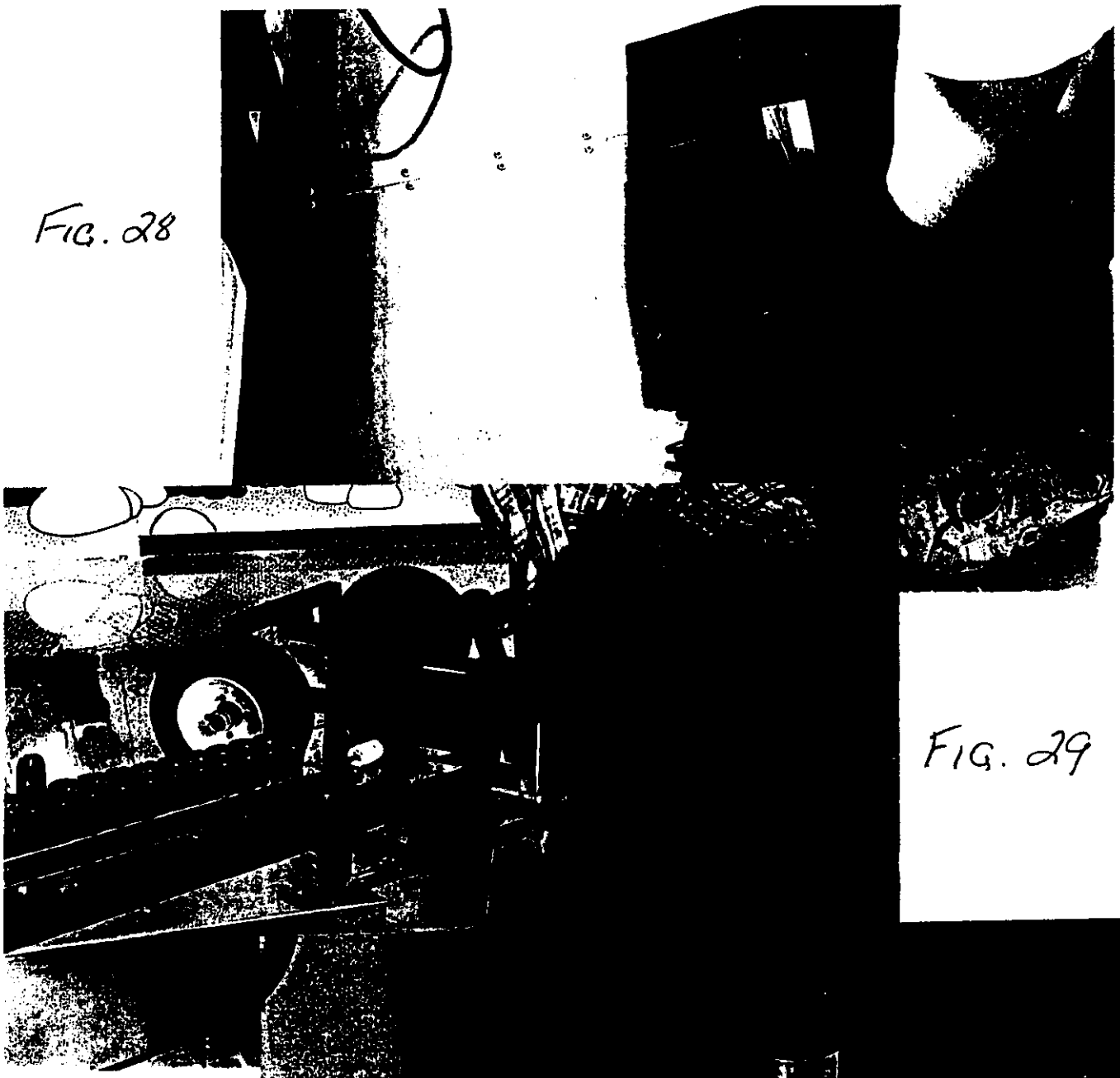


FIG. 28

FIG. 29

FIG. 30

FIG. 31

FIG. 32

FIG. 33

Dismantling the Construction Zone

- Remove Balleycloth and canvas, fold and stow in canvas storage bag and place in seats.
- Unpin the scenery, fold it down in traveling position and re-pin.
- Unplug all electrical cords from dump trucks.
- Remove the BIG ELI Critter and the rock pile and store.
- Rotate the ride so that the winch is in front, directly opposite to the rear scenery. **IF you fail to do this before attaching the sweeps, you will have to reattach them and start over.**
- Attach the top of the centerpole with the pulleys and pin in place properly.
- Unpin each vehicle from the sweeps.
- Fold the connecting wing shaft up and pin in place.
- Fold sweeps up and secure with bolts and pins. Be sure to use the cotter pins provided.
- Roll each vehicle to storage position and put storage saddles in place under the wheels.
- Unpin the telescoping sections of the front marquee and telescope it down to storage position and re-pin.
- Move the quartz lights off the back side of the marquee to the front side for traveling. Pin in place.
- Unpin and remove the third leg on each side of the marquee. Store it up on the sweep facing the rear of the trailer.
- Remove the marquee floor pins so that it rotates.
- Fold it down VERY CAREFULLY on the apron so the pin on the middle leg goes though the floor.
- Pin it on the other side when raising the side. Be sure that nothing is interfering on the way down.
- Remove the steps. Store them on the sweep facing the rear of the trailer.
- Adjust the wheel covers up to travel position.
- Remove the wheel well walk way covers. IF YOU NEGLECT TO DO THIS, YOU WILL BEND THEM WHEN THE APRONS FOLD UP.
- **WARNING: YOU WILL PROBABLY DAMAGE THE RIDE IF YOU DO NOT FOLLOW NEXT STEPS PROPERLY:**
- Attach the winch hook to the eye on the front apron and start winching it up slowly.
- When the apron is about two thirds of the way up, put the click pin on the marquee pin underneath.
- Pin the permanent jacks in position.

- Have people on the ride ready to "catch" the apron as it approaches vertical position. It should NOT be allowed to go over center with any force or **YOU WILL DAMAGE THE RIDE.**
- Attach the tie rod to hold it to the center pole.
- Attach winch to rear apron and lift half way up.
- Pin jacks into storage position.
- Put the click pins in the four pins coming through from the rock.
- Have a spotter watching the sides to see there is no interference from the fencing, vehicles inside, signage, etc.
- Lift rear apron to **ALMOST**vertical position. It is top heavy. It will **CRASH overcenter if you do not stop it soon enough.**
- As the back scenery draws close to the front apron, have two or three people hold it from the inside so it does not bang against the front apron and does not go over center. **SLOWLY LET IT CLOSE TOWARD THE FRONT APRON.**
- If the pins do not line up over the holes, crank the corner jacks down to relieve the off-center condition. **DO NOT** force the pins to bring the top and side into place.
- Pin aprons together at top.
- Attach the tie rod from the apron to the center pole.
- Crank all the jacks up as far as they will go.
- Disassemble the subframe and fold it in under trailer.
- Store the jacks and the blocking in the space provided on the ball hitch frame.
- Roll up the wire.

Chapter 3

Operation Instructions

Rules For Safe Operation of the Construction Zone Ride

- Always completely inspect and test-run the Construction Zone Ride before each operating period. Be sure the timer is set for the proper length of ride.
- If any unusual noises or conditions develop while the Construction Zone is in operation, stop the ride and correct the problem before continuing operation.
- Always grease, oil, or wipe the operating parts of your Construction Zone while the ride is stopped and turned off. Doing otherwise can cause very serious accidents.
- You, the operator, are very close to the Construction Zone while it is running. You may get into the path of the ride ONLY after it has stopped.
- Being under the influence of drugs or alcohol while operating the ride must be absolutely avoided.
- Operate the Construction Zone ONLY within the limits of the mandatory maximum speed of 5.5 revolutions per minute.
- Operate the ride ONLY after checking to assure that all pins are in place and properly locked and all bolts are in place and properly tightened.
- Operate the ride ONLY after the signs for rider restrictions have been posted in a prominent position at the entrance of the ride.
- Infants and children too small to sit upright and hold on by themselves or if they are unable to be restrained by a seat belt should not be allowed to ride the Construction Zone.
- Toddlers should not be allowed to ride unless accompanied by a responsible adult. The back seat of the Dump bed is large enough to accommodate most adults.
- Persons under the influence of alcohol or drugs are always prohibited from riding the Construction Zone.
- Smoking or other uses of tobacco by guests are always prohibited while on the Construction Zone because of the danger to themselves and other passengers.

- All seat belts must be properly locking before putting passengers in the seats.
- All passengers must be properly seated with the seat belts locked before starting the ride.
- Riders must stay seated with their arms, legs, hands and feet inside the vehicles at all times.
- The cab of the Construction Zone and the front seat in the dump bed are built and sized for children only. Seat Adults only in the rear seat of the dump bed.
- If a child is being forced to ride or is scared, prevent them from riding. A scared child may well panic on the ride.
- Always watch the passengers and the queue line during a ride.
- If a child appears to become frightened during the ride, STOP THE RIDE IMMEDIATELY and allow them to exit the ride.
- If any passenger misbehaves in any way, STOP THE RIDE IMMEDIATELY. Refuse rides to anyone who might endanger themselves or others.
- Be sure the Exit gates and Entrance gates are closed and locked before starting and during the ride.

Operating the Ride

- All seats may be loaded simultaneously and passengers may climb aboard on their own if they desire and are able.
- The operator must check each seat before starting to make sure the seatbelt is secure.
- Turn on the motor by pressing the green button on the operator's control panel marked "ON."
- The ride will turn off automatically according to the timer setting. If the ride needs to be stopped for any reason (passenger misbehaving, scared child, etc.) press the Stop botton.
- Once the dump trucks come to a stop, open the Exit gate and help the passengers disengage from their seat belts and unload. The next group is now ready to be loaded.

Closing Down for the Night

Turn off the main service disconnect in the middle of the trailer.

4

Construction Zone: Dump Truck Model

Electrical Systems Description

The Dump Truck requires 208-240 3-phase VAC to operate. The drive system and the lighting system are described separately. Both systems derive their power from a main power input block located on the front of the trailer. Means of connection to the input power block is left to the discretion of the owner. A 100-foot cable of 8/5 SOWA type W cable is provided. This cable is rated for extra-hard usage, is suitable for use in wet locations, and is sunlight resistant, as required by the 1996 National Electric Code section 525-13 (a) for carnivals.

The drive system draws 3-phase power from the main input power block. From there current flows to a NEMA size 2 starter via a 100 Amp circuit breaker, both of which are located in the Control Relay panel located on the floor immediately adjacent to the center pole of the ride. The drive is a 5 HP motor coupled to a hydrosheave, which provides soft starting and stopping of the ride. The gear reducer (40 to 1) is chained to a larger sprocket that in turn provides rotational motion to the center pole.

The operator's control box is permanently mounted on the side fence. There is also a foot pedal, which must be energized before the ride will start. There are five switches on this panel:

(1.) A green extended button that starts the ride.

(2.) A red mushroom head emergency stop button.

(3.) A selector switch which turns all flashing lights on and off.

(4.) A selector switch which turns the quartz lights on and off.

(5.) A push button to energize the air horn.

The green start button causes the motor starter to close for a preset length of time. An adjustable timer relay can be set for a ride time-length acceptable to the owner.

The emergency stop button, when pressed, causes a break in the hot line of the control logic circuit, which interrupts the control logic governing the operation of the motor starter. This causes an immediate stop of the ride. Additionally, the timer relay is reset to zero time and all flashing lights and truck lights are powered down. The overhead quartz lights, if on, will remain on. This feature is provided in the event that if the

emergency stop button is used at night, riders will be able to see their way safely to the exit gate, if such action is warranted.

The lighting system is divided into four circuits. All components of the lighting systems are controlled by two 40 amp coil driven contactors located in the control/relay panel.

(1.) The flashing lights on the center pole are driven from an electrical box mounted on the center pole, which is powered via the commutator rings located on the base of the center pole. The operator panel provides the means of switching all flashing lights. A mechanical light chaser distributes power pulses to the lights themselves. Currently, only 3 channels of the 4 channel chaser are in use. This provides an extra contact that could be put into use in case of wear on one of the other contacts.

(2.) A mechanical light chaser located in the control/relay panel drives the flashing lights on the scenery panels and on the front sign. All four channels of this chaser are in use. Power is directed to the scenery panels via a cable running under the trailer. Two junction boxes, located on the rear wall of the scenery are used. This way, a section of weatherproof conduit protects the cable on its vertical climb. Lights on the marquee sign, at the front of the ride, are also cabled under the trailer. The cable plugs in to the bottom of the sign via a six pin snap-close receptacle.

(3.) The overhead quartz lights are controlled by means of a second coil-driven contactor in the control/relay panel. Two legs of three-phase circuit are joined here to provide the 220 volts required to operate the four quartz lights. Again the on/off status of these lights is controlled at the operator's panel via a selector switch, and will remain on under emergency stop conditions.

(4.) The lights on the trucks are on a 12-volt circuit. A 12v/200 Amp transformer is located in its own fan-cooled box on the rotating center pole. Power distributed to the trucks is all 12-volt. There is no 110-volt circuitry on the trucks.

(5.) The air horn is located on the back of the marquee sign in front and is energized by pushing the button on the operator's box.

5

Inspection of the Construction Zone

CONSTRUCTION ZONE INSPECTION LOG							
Inspect all the following before opening every day.	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Pins and click pins in place on marquee							
Pins and click pins in place to attach vehicles To sweeps							
Pins and click pins in place on all scenery							
Fender wells down in lowered position							
Lights on vehicles plugged in to sweeps							
All seat belts properly attached							
All electrical boxes are closed							
All grounds are in place at the power input to the Ride and in all electrical boxes							
Run the ride. Are there any unusual noises? Is anything interfering with the ride?							
Are all the lights working?							
Check winch cable for any kinks or broken strands. Replace bad cable before using it.							

6

Maintenance of the Construction Zone

CONSTRUCTION ZONE MAINTENANCE LOG							
Check the following items at time intervals specified and perform if needed							
Check and tighten lug nuts on trailer wheels for the first four jumps or more until they are properly seated							
Oil in hydrosheave - Annually							
Grease zerks on center pole – Once/month							
Grease zerks on sweep bearings - Annually							
Grease zerks on vehicle wheel bearings – Once/month							
Oil in gearbox –90 wt gear lube – Once/month							
Chain lube on winch chain – Once/month							
Check casters for excessive wear							
Check seat belts for excessive wear – replace when worn							
Grease zerks on wheel bearings on trailer (in dust cap on hubs of wheels) - Annually							
Check all pins for cracks and wear							
Check all click pins for proper closure							
Grease zerks on dump bed casters – Once/month							
PLEASE ADD ANY ADDITIONAL ITEMS BELOW:							