LIST OF LOADING PAMPHLETS—CLOSED CARS

(Bracketed date indicates latest issue)

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1	Automobiles—Motor Vehicles Shipped in Auto Loader Cars (April, 1949)
2	Automobiles—Motor Vehicles Shipped L.C.L. or Carload in Other than Auto Loader Cars (April, 1949)
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21	Machinery (July 1945)
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23	Sheet Steel, Tin Plate and Other Steel Products (Nov. 1942)
24	Mixed Loads of Commodities in Wooden Cases, Cartons, Drums, Barrels or Pails (Dec. 1944)
25	Paper and Similar Commodities on Skids (April 1945)
26	Plasterboard, Wallboard and Lath of Similar Composition—Either in Solid Loads or with Bagged Commodities as Mixed Loads (Dec. 1941)
27	Projectiles, Bombs and Cartridge Cases (Empty) (Nov. 1943)
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35	Untreated Cross Ties (May 1942)
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38	Unsaturated Roofing Felt and Pulpboard Paper (March 1945)
39	Newsprint (Oct. 1944)
40	Vitrified Clay Sewer Pipe (Jan. 1947)
41	Dictionary of Standard Terms (June 1947)

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FREIGHT LOADING AND CONTAINER SECTION
59 EAST VAN BUREN STREET
CHICAGO 5, ILLINOIS

PAMPHLET NO. 1

Rules Regulating The Safe Loading and Unloading of Motor Vehicles Shipped Carload in Auto Loader Cars and Protection of Equipment

ISSUED APRIL, 1936
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Prepared and Published by

Association of American Railroads

Operations and Maintenance Department
Operating-Transportation Division
FREIGHT LOADING AND CONTAINER SECTION
59 EAST VAN BUREN STREET
CHICAGO 5, ILLINOIS

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RULES REGULATING THE SAFE LOADING AND UNLOADING OF MOTOR VEHICLES SHIPPED CARLOAD IN AUTO LOADER CARS AND PROTECTION OF EQUIPMENT

PART I—LOADING

GENERAL RULES

The "General Rules", as contained in Circular No. 42, or supplements thereto, issued by the Operating-Transportation Division, Association of American Railroads, which have been formulated for the purpose of providing safe methods of loading in closed cars must be observed.

A—GENERAL

Selection and Preparation of Cars

A-1—Cars must be inspected to see that they are suitable to safely carry loads to destination. Cars should have sound floors, and all nails or other projections, not an integral part of the car, should be removed. Nails, bolts, etc., necessary in car construction, when loose, should be made tight rather than removed.

A-2—Auto loader cars when used for loading automobiles and trucks must have the entire loader, including floor fixtures, inspected to insure that all parts are complete and in good working order. Refer to Mechanical Division, AAR, instructions for maintenance and repair of loader equipment.

Supervision

A-3—It is necessary that proper supervision be provided to insure that all provisions outlined herein be complied with when loading motor vehicles in auto loader cars.

B—PREPARATION OF VEHICLES FOR LOADING

B-1—During period named in tariffs, shipper must comply with requirements for draining liquid from cooling system, unless cooling system contains anti-freeze solution and owner assumes risk of freezing per tariff rule, proper notation of which should be made on bill of lading, on shipping order, or form of receipt, and on the waybill. In draining cooling system, open the drain cock provided for draining the radiator and, if so equipped, also open the drain cock provided for draining the engine block.

B-2—Vehicles should be carefully inspected for imperfections, such as visible tire defects, scratches, gouges, dents, paint flaws, cracked or broken glass or plastic, soiled upholstery, defective or scratched chrome, missing parts, etc. Any defects or imperfections as above enumerated must be repaired or marked with soft crayon or chalk. The purpose of the crayon or chalk marks is in order that destination forces may note defects unrepaired prior to shipment.

B-3—Tires must be inflated to 10 lbs. above manufacturer's recommended pressure.

B-4—Shipper must lock ignition and insure that radio, lights and heater are turned off.

B-5—Windows must be closed and doors firmly latched and all rear deck lids firmly latched and locked with key. Attach lid key and ignition key to the steering wheel.

B-6—Rear compartments should contain only the standard tool kit and spare wheel and tire securely mounted on bracket provided. Additional parts, to be shipped, must not be placed in vehicle or rear compartment but must be properly secured to car floor.

B-7—Batteries, if removed, must be placed on floor in corners of car and secured with two floor cleats against exposed side and ends of battery and one hold-down cleat properly nailed in place to side wall of car. The caps on batteries must be securely tightened and the clamp bolts must be securely tensioned. Fluid level in batteries on decked vehicles must be reduced to prevent seepage through vent holes.

B-8—Master cylinder of hydraulic brake system on decked vehicles must have fluid level reduced and solid shipping plug substituted for vented plug or vent positively sealed by an effective method acceptable to the carrier.

B-9—Adapters used for securing hold-down chains to the vehicle should be manufactured only of soft steel of sufficient strength and be designed with rounded edges to prevent excessive wearing of chains. When applying adapters, they must be properly positioned on the vehicle frame. With threaded adapters, the cap screw must be inserted in a manner to avoid cross threading, a lock washer used under the head of the cap screw and the cap screw securely tightened. On non-threaded adapters, both lock washers and lock nuts must be used and bolts and nuts securely tightened. Frame plates used with adapters must be of sufficient size to cover an adequate frame area to prevent buckling, bending or tearing of frame.

B-10—To prevent marring of finish do not cover the top and sides of the vehicle with paper or other material.

C—LOADING FREIGHT CARS EQUIPPED WITH AUTO LOADERS

C-1—All automobile cars equipped with loading racks are marked with a long three inch white stripe, below center, on main section of side door, full length, both sides of car.

C-2—Inside height of car at center (distance from floor to closest interference at roof) is stenciled in two inch black figures in center of white stripe on each main side door. **Example:** 10 ft. 6 in., actual height on inside of car at center.

C-3—Number of floor tubes in car, either 8, 12, 14 or 16, as well as the type of rack in car, "C", "D—", "D", "D+", "E", "F", or "T", is stenciled approximately two inches below white stripe in center of main side door. **Example:** "8D", meaning car has eight floor tubes and "D" type rack.

C-4—The Type "F" rack has 9 point adjustable hubs, telescopic front and rear legs, sliding front and rear pans.

C-5—The Type "T" rack has 18 inch wide pans for loading dual-wheel trucks.

C-6—Illustration No. 1 shows the "D" or "E" frame and instructions for making adjustments, and Illustration No. 2 shows the "F" frame.

C-7—When raising the auto loader, the legs should be dropped to the floor so they will drag and thus serve as a safety measure.

C-8—Workmen should never stand under the loader while it is being raised or lowered.

C-9—Place first vehicle in short end of car with rear of passenger vehicle towards doorway of car and rear or front of truck towards doorway of car according to type of vehicle being loaded. (See Illus. No. 5.)

C-10—Lower loader to floor in opposite end of car as follows: First, pull on hoist chain sufficiently to take weight of loader off Safety Hook (Item No. 12*) then release safety hook by pulling Safety Hook Cable (Item No. 4*) located near chain falls. Lower loader.

C-11—On loaders equipped with slide adjustment, see that slide position is properly adjusted to accommodate the type of vehicle being loaded (See Illus. Nos. 1 or 2).

C-12—Locate vehicle on the loader (See Illus. No. 6), slightly forward of its final loaded position and secure it with chock blocks or spacer chain, with tires on center of runways in order to equalize clearance between vehicle and hoisting cables. A minimum clearance of not less than four inches is required between vehicles, vehicles and racks, vehicles and ends or roof of car. Greater clearances are desirable.

*Illustration No. 4.

C-13—Before starting to raise loader, and without weight of loader on cables, put tension on cables each side of car by hand by flexing them outward towards side walls, then raise hoist until weight of loader is carried by cables, thus assuring proper winding of cable on Cable Drum (Item No. 3*). Then continue to raise the loader until a sufficient height is reached to permit application of Front Hold-Down Chains (Item 27*).

C-14—Adjust the Turnbuckles (Item 38*) on Hold-Down Assemblies (Items 27 or 9*) with eyebolts turned out to full length, leaving a full set of thread engaged in the turnbuckle. Then pass hold-down chains through the adapters and compress front springs or suspensions with special Compression Lever (Illus. No. 3) or by other equally effective means. **CAUTION: Do not fasten hold-down chains to the knee-action assembly, running board brackets, rear axles and gravel deflectors.** Remove all kinks or twists from hte hold-down chains and see that no part of the hold-down assembly is fouled, draw chain taut through the adapter making it fast in Grab Hook (Item No. 37). Remove chock blocks and/or spacing chain, and allow vehicle to roll back and be held by the front hold-down chains. Equalize tension on both chains by tightening Spring Turnbuckles (Item No. 38*) with Spanner Wrench (Illus. No. 9). For certain types of trucks, the rear chains are applied first in accordance with the above procedure.

C-15—Knot or tie all surplus ends of chains and secure the knotted portion with annealed wire or steel strap to prevent knots becoming untied and permitting surplus chains to drop on vehicle to be loaded beneath. Knots must be formed in surplus chains in a manner to prevent wire or strap carrying undue weight. Use caution to effectively secure strap at seal or twist in wire tie.

C-16—Continue to raise loader high enough to permit properly attaching adjusted rear legs to Floor Sockets (Item No. 21*), making certain that lock pins are properly engaged through the floor tongue forging.

C-17—Raise the loader to the highest possible position without vehicle contacting roof or end of car.

C-18—Connect chains to rear adapters and compress vehicle springs with special Compression Lever (Illus. No. 3) or with an equally effective substitute, and tighten the spring turnbuckles as was done at the front end of the vehicle (see Paragraph C-14). Prevent all four Turnbuckles (Item No. 38) from turning by wiring spring cages to the eyebolts. Secure surplus ends of chains as described in Paragraph C-15. **CAUTION: Do not fasten hold-down chains to the knee action assembly, running board brackets, rear axles and gravel deflectors.**

C-19—Place second vehicle in car. If a passenger vehicle, locate with radiator under first decked vehicle (see dotted line, Illus. No. 7) and for certain models of trucks located with rear of truck under first loaded truck.

*Illustration No. 4.

C-20—To secure second vehicle, lower other loader and proceed as per paragraphs C-10 through C-18.

C-21—Apply drip paper under decked vehicles to prevent oil or grease from falling on the vehicle below. **CAUTION: Drip paper must be tied to the vehicle.** Do not tie the paper to the brake lines, fuel lines or to any part of the loader.

C-22—To load floor vehicles, place first vehicle in long end of car, moving it under the loader as far as possible without making contact with end walls or loader. Next, place fourth vehicle on floor in short end of car. Move each vehicle into proper position to obtain greatest possible clearances and then secure chains located in floor wells at ends of car to the adapters on the vehicle. Remove all slack from these chains. Apply chains from floor wells at doorway and equally tension chains by adjusting Turnbuckles (Item No. 38*) with Spanner Wrench (Illus. No. 9). It is not necessary to wire surplus ends of floor chains. Turnbuckles must be secured against turning as per Paragraph C-14.

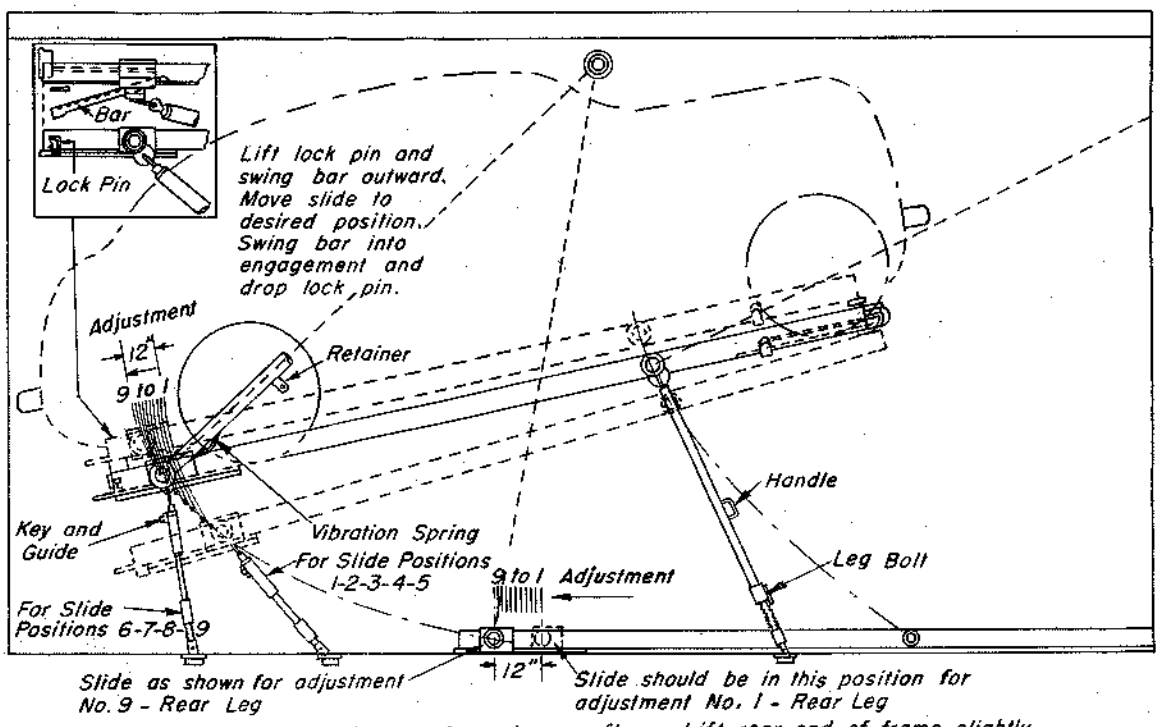
C-23—Lower both loaders slightly and secure properly adjusted Front Legs (Item No. 34) in proper position of Front Leg Floor Socket (Item No. 36*) again making sure that lock pins are properly engaged. Insure that all minimum clearances are maintained as per paragraph C-12.

C-24—Insure that weight of Loader Frame (Item No. 14*) and the vehicle are supported by the legs and arms of the Loader, but do not leave an excess of slack in the Cables (Item No. 1*). To maintain 4 inches or more clearance between the Cable (Item No. 1*) and any point on the vehicle, secure the cable by wire or steel strap to the Rear Arm (Item No. 7*) or Rear Arm Hub (Item No. 26*). Draw Hand Chains (Item No. 6*) together closely below hoist wheel and wire the links to prevent turning of Cable Drums (Item No. 3*). Then place chain in Hand Chain Slot (Item No. 5*) to prevent chain from swaying and damaging the vehicles.

C-25—When riser blocks are used on either floor or decked vehicles, they must be secured by means of wire, rods or steel straps over axles to prevent displacement.

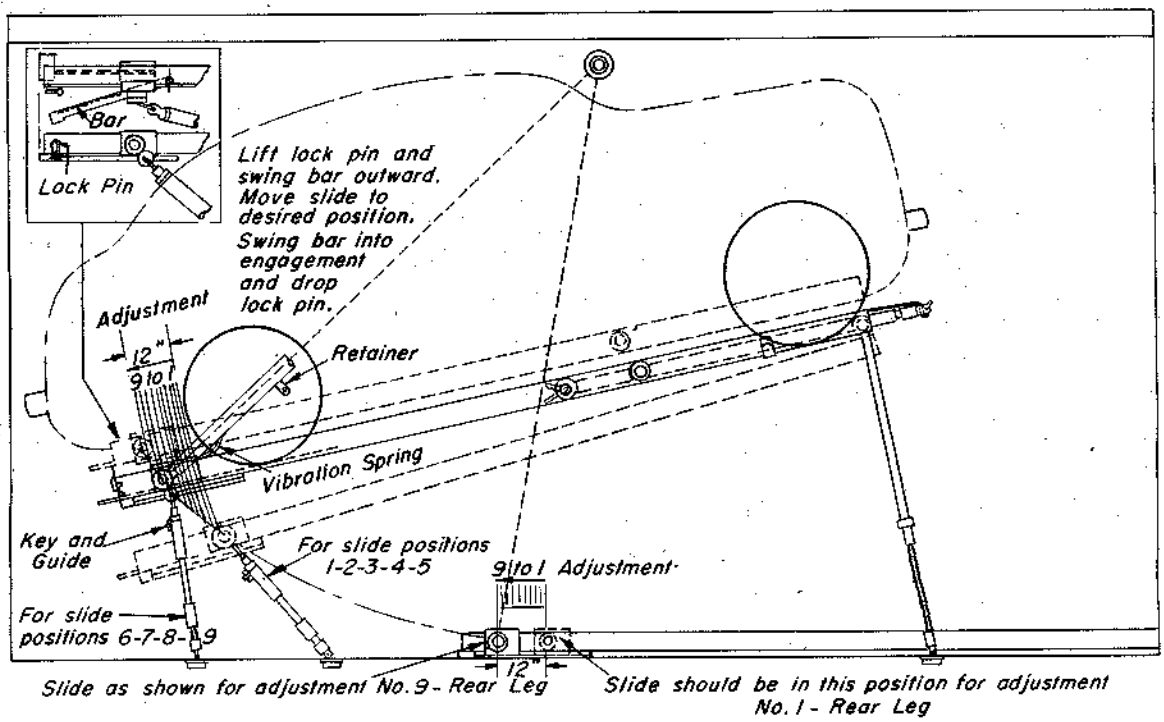
C-26—Attach the Sway Hook (Illus. No. 8—Item No. 16), adjusting at the Socket or Anchor (Illus. No. 8—Items 17 or 18), so that it will be in a horizontal position. **CAUTION: To prevent displacement or disengagement of Sway Hook from the loader, it is extremely important to apply a cotter pin, or standard hook if loader is so equipped, to the Sway Hook (Illus. No. 8—Item No. 16) and properly spread the cotter pin legs.**

*Illustration No. 4.



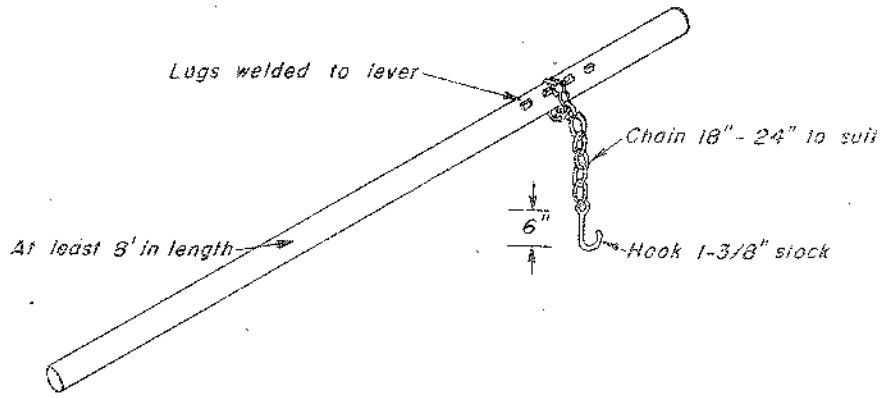
Adjustment to be made when frame is near floor. Lift rear end of frame slightly.

ILLUS. NO. 1 - *LOADER FRAMES TYPES "D" AND "E"*

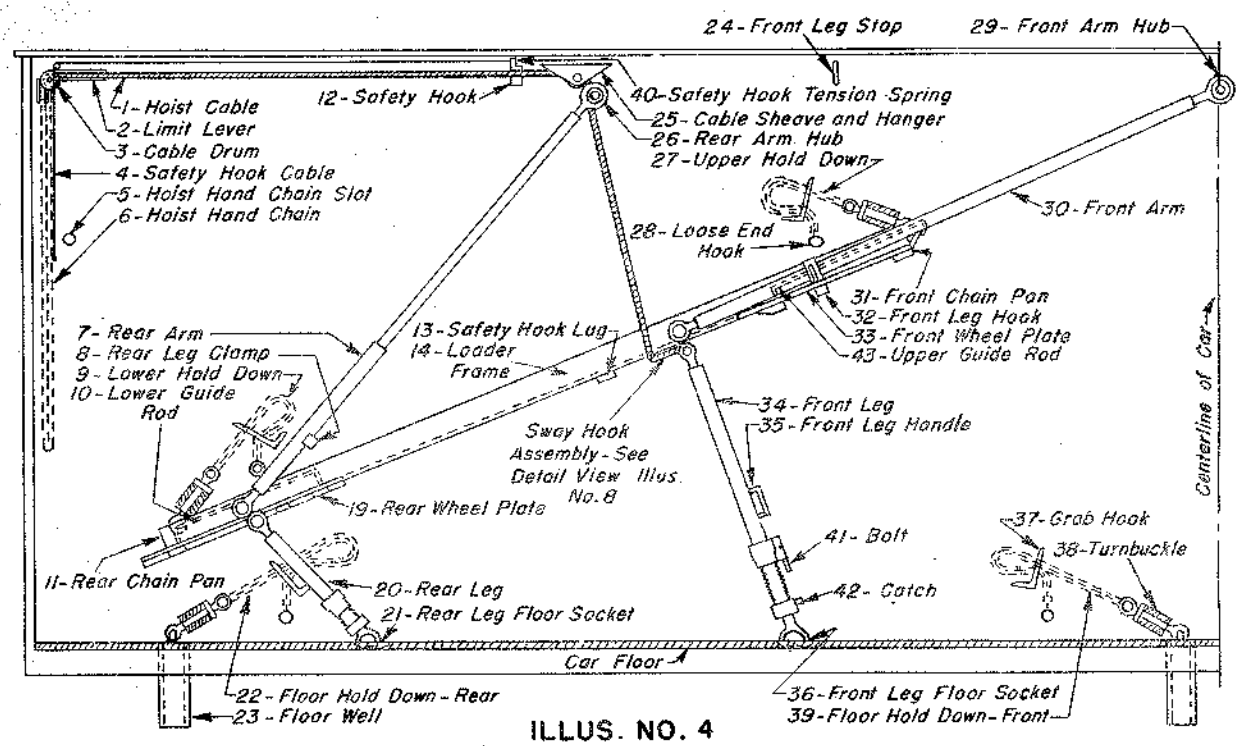


Adjustment to be made when frame is near floor. Lift rear end of frame slightly.

ILLUS. NO. 2 - *LOADING FRAME TYPE "F"*

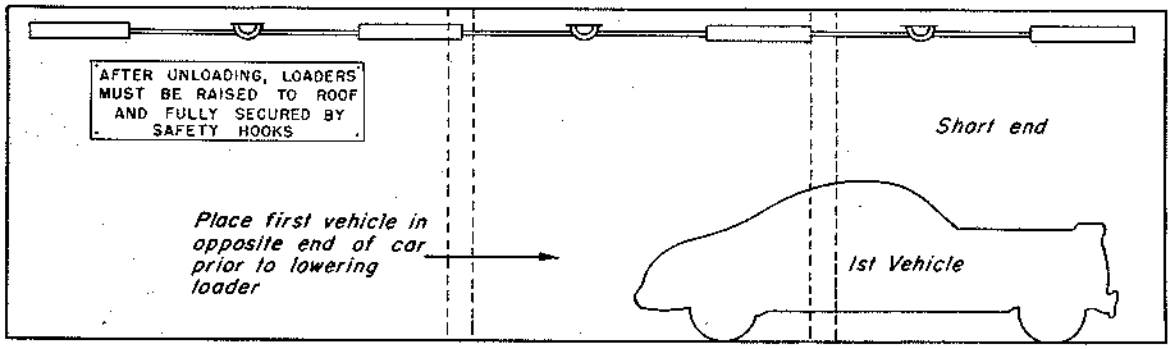


ILLUS. NO. 3 - *LEVER TO COMPRESS SPRINGS*

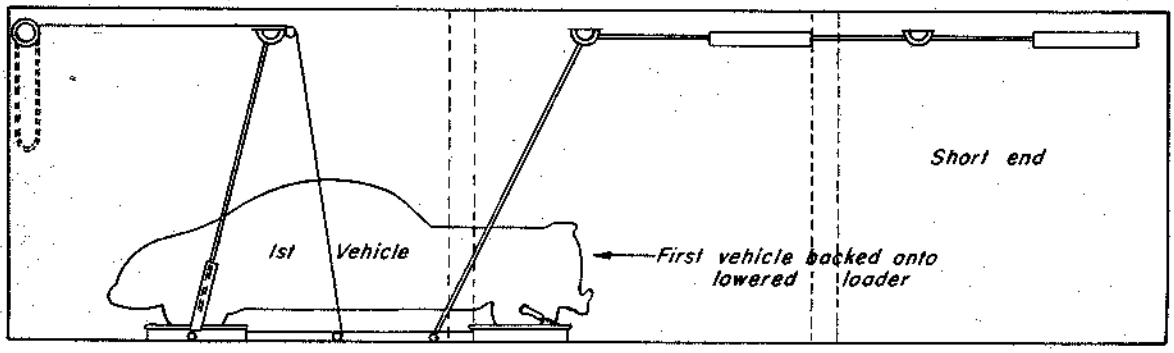


ILLUS. NO. 4

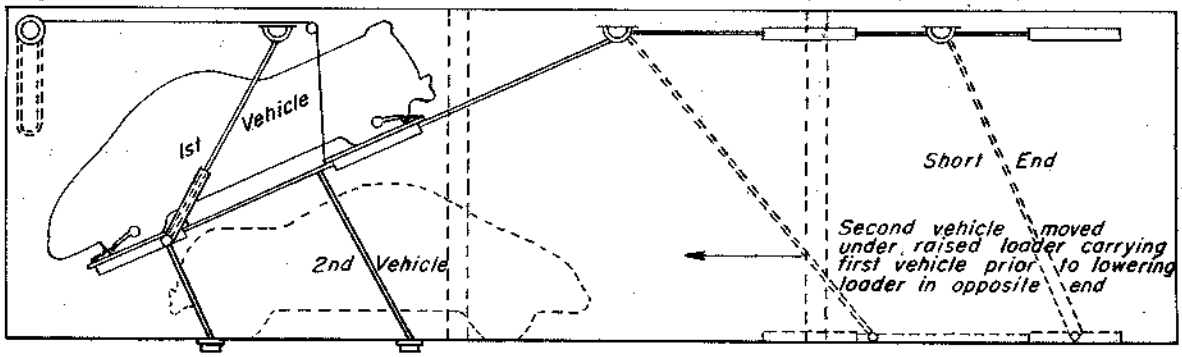
AUTO LOADER



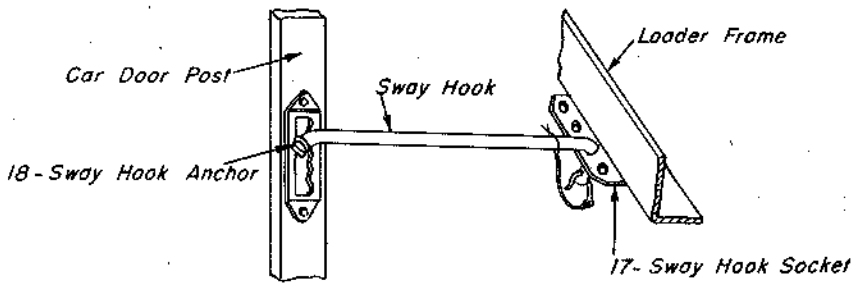
ILLUS. NO. 5 - *PLACING OF VEHICLES*



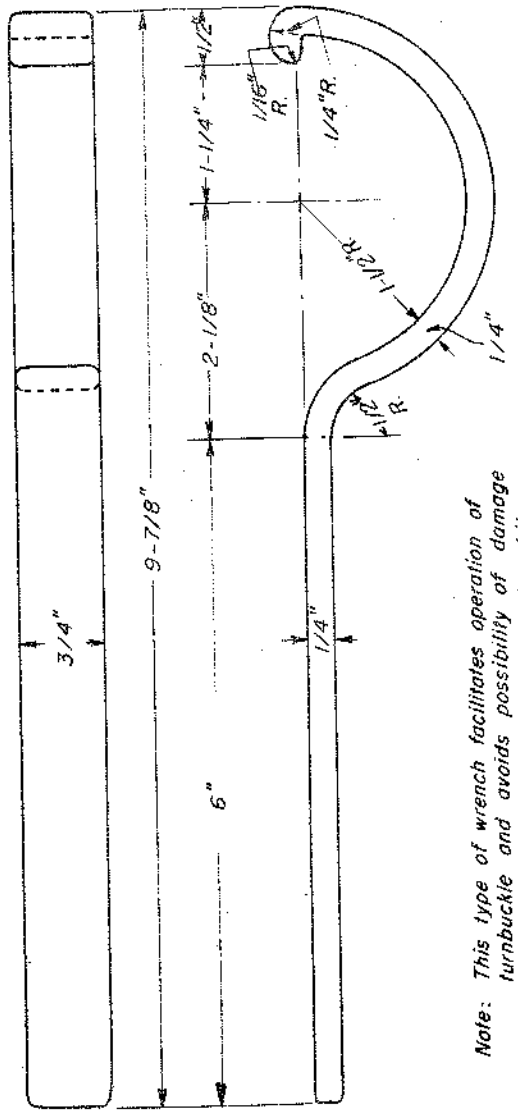
ILLUS. NO. 6 - *PLACING OF VEHICLES*



ILLUS. NO. 7 - *PLACING OF VEHICLES*



ILLUS. NO. 8 - *SWAY HOOK ASSEMBLY*
Detail of Sway Hook Assembly Located on Loader Frame at Position Shown in Illus. No. 4.



ILLUS. NO. 9 - SPANNER WRENCH
Material: Tool Steel

Note: This type of wrench facilitates operation of turnbuckle and avoids possibility of damage to turnbuckle assembly and to automobile. Wrenchss can be manufactured in any blacksmith's shop.

PART II—UNLOADING RULES AND INSTRUCTIONS FOR PREPARATION OF EXCEPTION REPORTS

D—INSPECTION AT DESTINATION

D-1—Inspection of vehicles should be made before and after unloading and whenever possible jointly with consignee. It is desirable for the carrier's agent to observe unloading.

D-2—Before starting unloading operations, the vehicles should be carefully inspected with a flashlight or other suitable artificial light, particular attention being paid to the radiator ornaments, cabs, roofs, door moulding, fenders and radiator grilles.

D-3—State the facts as you find them on automobile exception reports in accordance with the following instructions and have consignee sign the report.

E—UNLOADING OPERATION

E-1—Comply with unloading instructions on poster applied to inside of car.

E-2—The gloves, clothing, etc., worn by the unloading crews should be clean and free from abrasive materials, sharp buttons, or other foreign articles liable to scratch the finish on the vehicles. Do not stand on finished surfaces of the vehicles.

E-3—IMPORTANT. When starting to unload, the first operation is to put tension on the Hoist Cables (Item 1*) before removing the Sway Hook (Illus. No. 8—Item 16). This will prevent vehicles on the loader from swaying and coming in contact with top of vehicle loaded on the floor. When the cables are secured to Rear Arm (Item No. 7*) or Rear Arm Hub (Item No. 26*) with steel strap or wire, the strap or wire should be cut prior to placing the load on the cables in order to prevent wire or strap breaking and allowing side of vehicle to be scratched.

UNLOADING FLOOR VEHICLES

E-4—When unloading the floor vehicles, apply parking brakes or block wheels before releasing hold-down chains. Do not release floor vehicles by hammering link out of grab hook or adapter (when used on chassis), by cutting or burning link, or by any other means which would permit a sudden release of chains and cause the vehicle to jump upward and become damaged by contact with loader frame immediately above. Before removing Chains (Items Nos. 22 or 39*), unloaders must therefore determine which set of chains, front or rear, pulls vehicle towards end of car, and slack off turnbuckles on that set of chains first.

*Illustration No. 4.

E-5—Care must be taken while unloading not to tear the drip paper affixed to underside of vehicle on loader frame. Paper must not be removed until the floor vehicles have been taken out of the car.

E-6—If necessary to obtain clearance for unloading floor vehicles, raise the auto loader slightly and carefully by Hoist Hand Chains (Item No. 6*), then pull pins of front legs at Floor Sockets (Item No. 36*), and hang Front Leg Handles (Item No. 35*), on small Hook (Item No. 32*) at outer end of front arm bracket. Do not use bars to force Pins (Item No. 36*). Hoist Chains (Item No. 6*), when removed from Chain Slot (Item No. 5*), in wall of car, must not be permitted to strike vehicle.

While raising the loader, care must be observed to prevent vehicle on the frame coming into contact with roof of car. When moving one of the floor vehicles under the loader frame which has been raised slightly, care must be taken to prevent any contact which will damage the vehicles.

A roller jack or dolly should be used under the vehicle to facilitate its removal from the car. Threshold plates must be nailed or secured in place on dock platforms to prevent jacks or dollies forcing the plates out of position and falling between dock and freight car.

Extreme care must be exercised when removing the vehicles from the car to avoid damage to sides, doors, fenders, or top of the vehicles which will occur from scraping doorposts, front cross member supports, long front leg of loader or the underside of the raised loader.

UNLOADING VEHICLES ON LOADERS

E-7—Before releasing Hold-down Chains (Items Nos. 9 and 27*) on vehicles secured to loaders, determine whether the Upper (Item No. 27*) or Lower (Item No. 9*) Chains hold the weight of the vehicle. As a rule, passenger automobiles will be held by the Upper Chains (Item No. 27*), and Lower Chains (Item No. 9*) should be released; trucks and commercial automobiles may be held by the Lower Chains (Item No. 9*) with directions of hold-down chains in reverse of those shown on the drawing, in which case the upper chains should be released first. Do not release holding chains until loader has been lowered to the floor. As explained in paragraph E-4, tension in the hold-down chains must not be released suddenly but by slacking off the turnbuckle.

E-8—Before lowering the loader, disengage the rear legs at Floor Leg Sockets (Item No. 21*). This can be done by raising or lowering the frame carefully by the Hoist Hand Chains (Item No. 6*), thus relieving the tension on the legs. Bars must not be used to force out pins in Rear Leg Floor Socket (Item No. 21*). The rear legs must then be attached to the Rear Leg Clamp (Item No. 8*).

CAUTION: Operator must stand by Hoist Hand Chain (Item No. 6*) while loaded frame is being lowered, with his hand on the chain, so lowering speed may be definitely controlled. Stand clear of the loader when the loader frame is not supported by the legs, or when it is being raised or lowered.

*Illustration No. 4.

E-9—When rolling vehicles from the loader, the vehicle must be controlled by one of the unloading crew in the driver's seat operating the brake. This movement must be slow in order not to bounce the understructure of the vehicle against the loader. When the vehicle door is opened while vehicle is still on the loader, care must be taken not to allow door to contact cable or arms of loader.

E-10—When unloading forces enter the vehicle, a clean protective covering must be placed over the upholstery to prevent soiling. Loose vehicle parts or tools must not be placed on upholstery.

E-11—Five Vehicle Load. When unloading a five vehicle load in a Type F 5 car, the hold-down chains must first be detached form all three vehicles on floor of car. Move the two end vehicles toward ends of car, taking care that the vehicles do not contact the loader. Detach Front Legs (Item No. 34*) on unloading side and hang on hanger (Item No. 32*). Remove center automobile with wheeled lift jack or dolly. Remove vehicles in each end of car and then those on the loader as described for a four vehicle load.

E-12—After all vehicles have been removed from the car, the loader frames MUST be raised into proper position by the unloading forces. The frames must be raised above the safety hooks (Item No. 12); then lowered until they rest on the safety hooks. Front leg (Item No. 34*) must be attached to front leg hook (Item No. 32*) and bolt (Item No. 41*) engaged in catch (Item No. 42*). Rear legs (Item No. 20*) must be locked in rear leg clamps (Item No. 8*).*

F—PREPARATION OF EXCEPTION REPORTS

F-1—Show car number and type of auto loader. Type of auto loader is stenciled on side door of car. Show seal number, date and time of inspection. Show trade name and serial number of vehicle damaged and designate location in car.

F-2—In preparing exception reports, use only the names and numbers of parts given in diagram (Illus. No. 4), for both damage to vehicles and for broken or defective loader parts.

F-3—List all damages and shortages, describing fully and show extent, location and character. If damage occurred during unloading, so state and describe circumstances fully. Scratches must be defined as hairline, paint or metal scratches.

F-4—Reports must clearly show the cause of damage and whether inspection was made before, during or after unloading.

F-5—Reports must state whether freight car was unloaded by carrier, consignee or third party (e.g., contractor) and, if by latter, for whose account, carrier or consignee.

*Illustration No. 4.

G—COMMON TYPES OF DAMAGE

G-1—Clearance. Recommended minimum is 4 inches between floor vehicles and loader, vehicles on loader and ends or roof of car. If vehicles have been damaged by such contact, record the clearance in inches where damage occurred and whether springs were compressed by means of hold-down chains, spring compression hooks or other separate device. Condition of such devices should be noted.

G-2—Drip Paper. Damage may occur to the floor vehicle through failure of the drip paper to serve its purpose. It may be improperly fastened in place or lack oil proofness. Cause of failure should be determined.

G-3—Battery Acid or Brake Fluid Leakage. Damage may occur to the vehicle finish by battery acid leakage due to: high fluid level, loose battery caps, or cracked or insecurely fastened batteries. Similar damage may occur from brake fluid leakage caused by: too high fluid level, seepage around loose temporary shipping plug in the master brake cylinder, or around the temporary rubber cap applied to the standard vented plug in the master brake cylinder. Cause of failure should be reported.

G-4—Glass Breakage. Glass may be broken as a result of hanging chains or other part of the loader, from contact, or from improper fitting. Record the type of breakage, location and determine cause of failure.

G-5—Open Doors or Deck Lids. Damage is caused by lids or doors being left open or opening in transit due to defective or imperfect locks. Tools and parts in rear deck may shift and force lids open or dent lids. Determine and report cause of failure.

G-6—Factory Damage. Manufacturers may designate with chalk marks on the vehicle damage existing at time of loading, and on which repairs were not made prior to shipment. When such damage designated by the chalk marks is observed, the report should include such information.

G-7—Defects found in the auto loader must be reported to carrier's Mechanical Department for inspection, repairs, or report to car owner.

G-8—Defective or Damaged Parts of the auto loader which are loose or easily removed, and defective or damaged parts of hold-down chains and adapters must be forwarded to designated Freight Claim Prevention Officials of destination carrier together with copy of inspection report.

G-9—Dropping of Unused Loader. In a three vehicle load if unused loader has dropped, serious damage results. List all damage to the vehicle and report why loader dropped, i.e., defective Safety Hooks (Item No. 12*), Safety Hook Tension Springs (Item No. 40*) or Lugs (Item No. 13*). If these parts are all in working order, so state. here loader legs or chains have fallen on vehicle on floor, report whether this failure was due to defective Front Hook (Item No. 32*) or Handles (Item No. 35*), or Rear Leg Clamp (Item No. 8*) and in the case of chains, report if any of remaining chains are wired in Chain Pans (Items Nos. 31 and 11*).

*Illustration No. 4.

G-10—Side Sway of Loaders. Lateral or Sway Hooks (Illus. No. 8—Item No. 16) if not properly engaged in hole in Socket (Illus. No. 8—Item No. 17) and secured by cotter pins or wire hooks, hooks may jump out of hole in socket during transit and result in side sway of loader, allowing Arms (Item No. 7*) or Cables (Item No. 1*) to strike vehicle, or Loader Frame may contact vehicle loaded on floor. Report whether Sway Hook (Illus. No. 8—Item No. 16) is bent or broken. Perspective view of Sway Hook Assembly is shown in Illustration No. 8.

G-11—Contact of Chain With Vehicles. Surplus ends of Hold-Down Chains (Items Nos. 9 or 27*) are generally knotted and secured with wire or steel strap to prevent contact with vehicles loaded on floor. Determine whether the surplus ends of chains were securely fastened by knotting and whether wire or steel strap was applied to prevent chains coming loose.

G-12—Hold-Down Chains Loose on Vehicles. Various types of hold-down chain adapters are used when impracticable to attach hold-down chains to vehicle frames. Such adapters are furnished and applied by shippers. Hold-down chains may not have been properly applied or tensioned at time of loading; slack in chains may also be caused by improper application of hold-down arrangement or by Turnbuckles (Item No. 38*) turning in transit. To prevent turning in transit, shippers wire the turnbuckles. Failure of any of these parts or improper application thereof are the main reason for loosening of chains and may permit decked vehicle to roll back against end of car or allow floor vehicles to shift against loader, other vehicle or walls of car.

In case of failure of adapters, one of the following conditions will be the cause:

1. Adapter broken or bent.
2. Adapter bolt or bolts broken.
3. Adapter bolts not properly threaded through adapter.
4. Adapter bolts backed out.
5. Adapter straightened by strain.

Report whether chains have failed because of wearing at sharp edges of frame, adapters or vehicles and whether links failed at welds.

G-13—Failure of Guide Rods (Items Nos. 10 and 43*). These are the rods to which the Hold-Down Assemblies (Items Nos. 9 and 27*) are linked. Rods, welds, or rod brackets may break resulting in hold-down assemblies becoming ineffective. On some new type F loaders in 40-foot cars the Guide Rods (Item No. 43*) are attached to an adjustable device. These devices may break and be pulled from their original position. Any of the above failures will permit vehicle to become loose on loader and cause damage.

G-14—Loose or Defective Turnbuckles. Hold-down chains may be loose due to failure of the turnbuckles caused by worn threads, insufficient number of threads engaged, or failure of the turnbuckle springs or spring frames.

*Illustration No. 4.

G-15—Riser Blocks. These are he hard wood blocks used to raise wheels of vehicle off floor or loaders. The blocks may be split or turned over. The failures may be caused by broken or loose hold-down chains. Show whether or not blocks were secured by wire, rods or straps, and report damage resulting from these block failures.

G-16—Insufficient Clearance Between Chains and Shock Absorber Arms or Brakes. When adapters are not used, sufficient clearance may not have been provided to prevent contact of hold-down chains with brake lines, axle housings, gas tanks, shock absorbers, stabilizer bars, steering arms, tie rods, bumper bracket bars or vehicle frame resulting in damage to these parts. Include all details in the exception report.

G-17—When car contains damaged vehicles and examination shows no defect of the loader, so report, describing character and location of damage and stating clearance in inches at closest possible point of contact.

G-18—When damage has been caused by failure of unloaders to comply with unloading instructions, so report, and describe nature of non-compliance.

Approved by

General Committee

Operating-Transportation Division