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NO.

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THE REFUSE-GETTER

INSTALLATION

OPERATION

ADJUSTMENTS

MAINTENANCE

REPAIR PARTS LIST

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2 3/4
4 1/4
8 1/2
20
36 1/2

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LEACH COMPANY

OSHKOSH, WISCONSIN, U. S. A.

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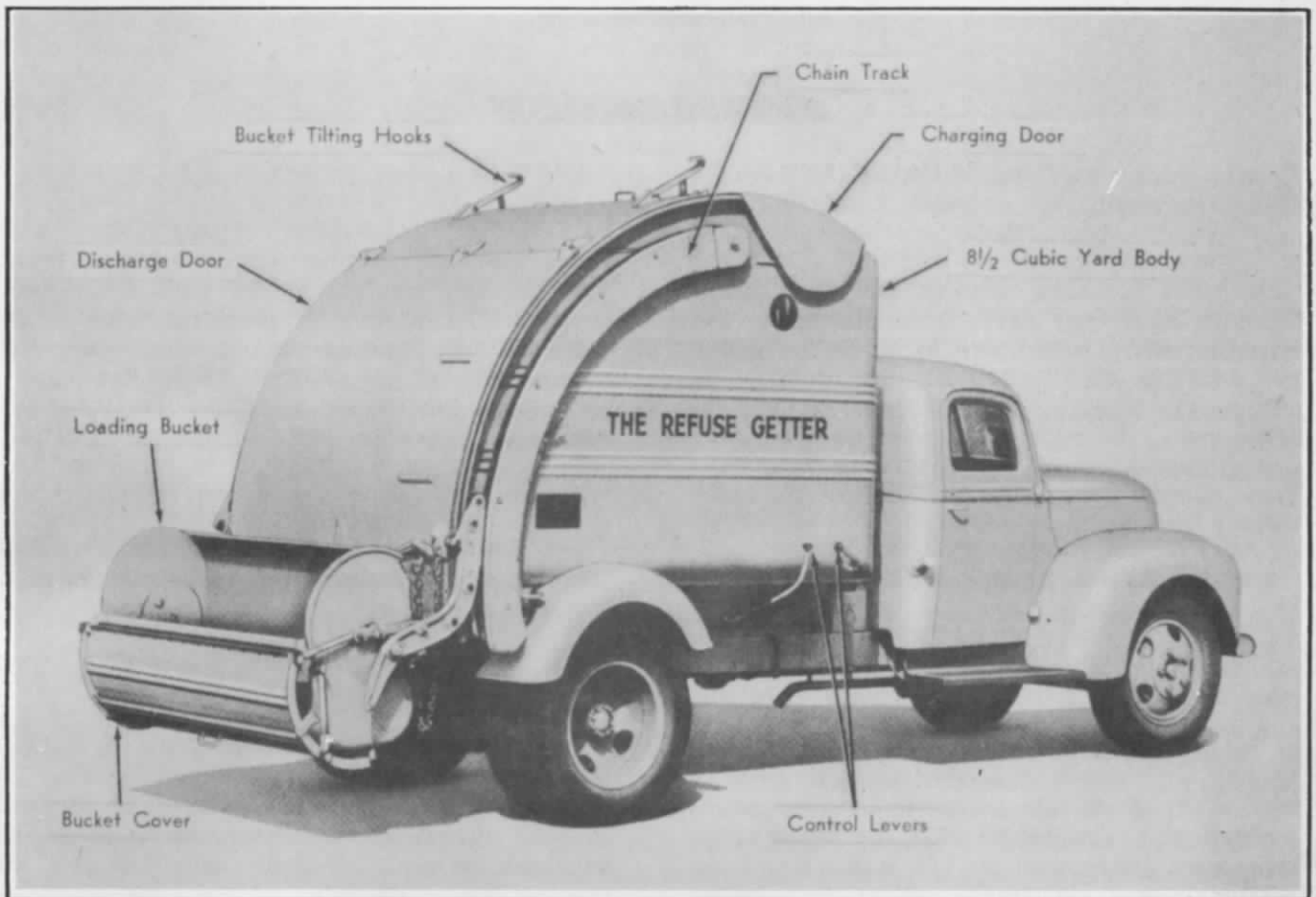


Figure 1 - MASTER REFUSE-GETTER

INTRODUCTION

This manual includes all necessary data for the installation, lubrication, servicing and the ordering of replacement parts for the MASTER REFUSE-GETTER.

The MASTER REFUSE-GETTER has a capacity of 8-1/2 cubic yards and weighs approximately 4500 pounds. The all-welded body assembly is fabricated from 11 gage high carbon steel, stands 80-3/8 inches above truck frame, and is 72 inches wide inside. Maximum width at rear fenders is 96 inches, depending upon truck and rear tire size. The all-welded steel loading bucket has a capacity of 3/4 cubic yard and provides an easy loading height

approximately 1 inch above the top of the truck frame.

The REFUSE-GETTER is also available in the CHIEF model, which has a capacity of 13 cubic yards. It is similar in construction and appearance to the MASTER model.

The COMPACTOR is a device for packing such refuse as wrapped garbage, rubbish, etc. into the REFUSE-GETTER, and is available in both the MASTER and CHIEF models. The increased loading capacity resulting from use of the COMPACTOR means fewer trips to the incinerator or dumping ground, with consequent lower costs.

INSTALLATION

To aid in the handling of the REFUSE-GETTER when mounting on truck, a set of lifting cables is provided; these are shipped in the box enclosed inside the REFUSE-GETTER body. This box also contains the power take-off with necessary parts for installation, and mounting shoes which are to be placed under the REFUSE-GETTER subframe when it is put on the truck. In order to get the box out of the body, the rear door must be opened by prying downward on the Discharge Door Release Lever (see page 5, figure 6), until locking hooks are released.

PREPARING THE TRUCK FRAME

The MASTER REFUSE-GETTER requires a minimum length of 71-1/2 inches from the rear of the truck cab to the rear axle and 102 inches from rear of truck cab to rear end of truck frame for mounting. Most truck frames are longer than this and will have to be cut off to correct length to prevent interference with raising REFUSE-GETTER body. Measure a distance of 29-1/2 inches from the rear axle and cut frame off at this point.

INSTALLING POWER TAKE-OFF

1. **POWER TAKE-OFF MOUNTING.** The power take-off is to be installed on the truck transmission, usually on the right-hand side. Some trucks provide a mounting opening on both left and right sides; in this case, the power take-off is supplied to fit the right-hand side. Where the truck has provision for mounting a power take-off only on the left side, proper power take-off is supplied. The following procedure should be followed when mounting the power take-off:

- a. Drain oil from the transmission into suitable container.
- b. Remove bolts securing cover plate over power take-off opening on transmission.
- c. Hold power take-off in place on transmission with spacer, shims and gaskets in position. Rotate power take-off shaft slightly in both directions to determine amount of backlash in mesh of gear teeth with gear in transmission. By this method, the approx-

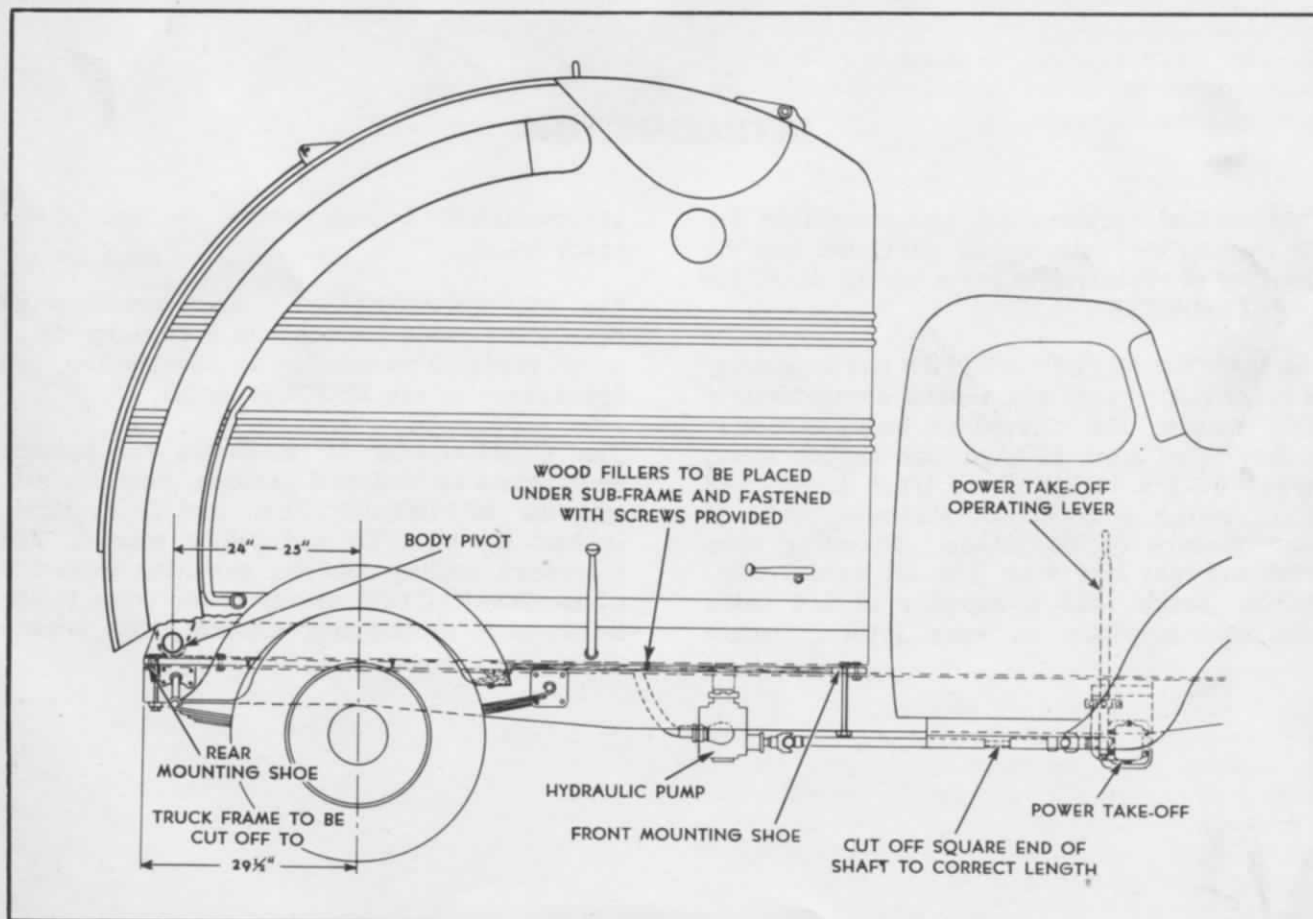


Figure 2 - Truck Mounting Diagram

Installation

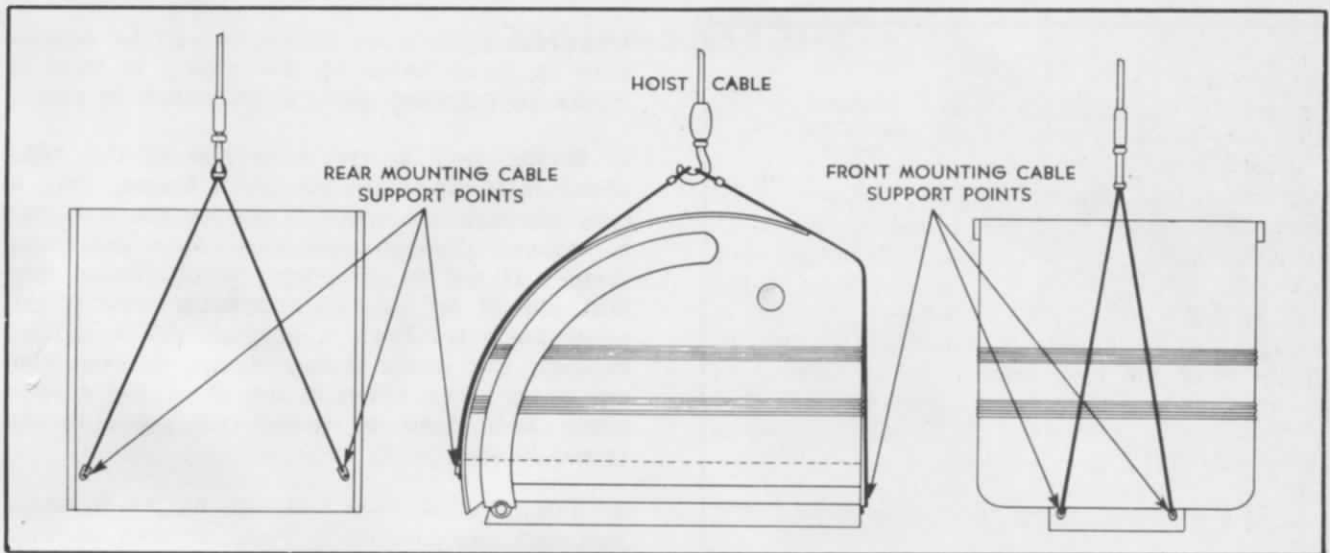


Figure 3 - Body Handling Cables Diagram

imate thickness of shims required can be determined. Power take-off gear must, of course, be shifted in position to mesh with gear in transmission.

d. Fasten power take-off, with spacer, shims and gaskets, in place with the bolts or studs provided. Test meshing of gears again by turning shaft in both directions; there should be only a very small amount of 'play'. If mesh of gears is too loose a shim must be removed, and if mesh is too tight, a shim must be added.

e. With power take-off fastened in place, start truck engine and let it run at idling speed. Increase speed of engine for a few seconds; if power take-off is noisy, add or remove shims as necessary to obtain quiet operation.

f. When installation has been completed, replace oil in transmission.

g. Power take-off operating lever bracket should be mounted on transmission and lever attached so power take-off can be conveniently shifted in cab. It will be necessary on some trucks to bend the lever in order to clear emergency brake lever or other parts.

2. POWER TAKE-OFF ADAPTOR. On some trucks it is necessary to use an adaptor with the power take-off in order to secure proper installation; the adaptor is supplied when needed. It consists of an idler gear and shaft mounted in the adaptor casting and is installed between the power take-off and transmission; a gasket should be used on both sides of the adaptor.

3. POWER TAKE-OFF ROTATION. Due to the differences in various truck transmissions, the direction in which the power take-off shaft turns is not the same on all trucks. If the power take-off shaft revolves in the same direction as the truck engine, it is correct for driving the pump on the REFUSE-GETTER. If, however, it turns opposite to the truck engine, it is necessary to change the oil line connections on the pump as follows:

a. Drain oil from tank into suitable container.

b. Remove 1 inch union and close nipple from left-hand side of pump.

c. Remove 3/4 inch union and reducing bushing from right-hand side of pump.

d. Screw the 1 inch x 3-1/2 inch long nipple (shipped in large box containing mounting parts) into right-hand side of pump; then add the 1 inch x 45 degree elbow, and attach the flexible tubing No. 1142-7 to the elbow.

e. On the left hand side of the pump attach reducing bushing, 3/4 inch close nipple, 3/4 inch union and No. 1142-6 tubing.

f. After making certain all connections are tight, pour oil back in tank.

LIFTING REFUSE-GETTER ON TRUCK

Attach the hoisting cables to the REFUSE-GETTER as shown in figure 3 using 5/8 inch diameter bolts. Make sure that the long cable is used at the front of the body, and the

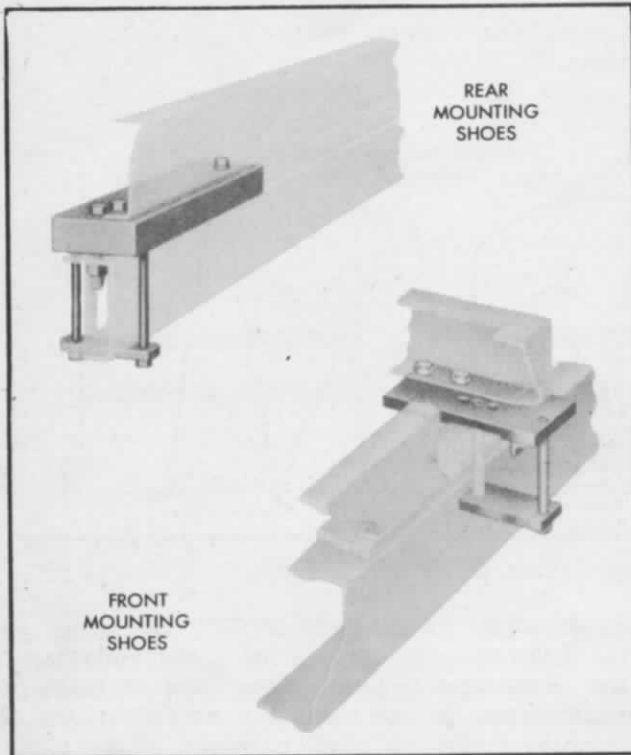


Figure 4 - Mounting Shoes

short one at the rear, so that the entire unit will balance when lifted with crane.

SECURING REFUSE-GETTER TO TRUCK FRAME

The REFUSE-GETTER is attached to the truck frame with the mounting shoes and wooden sills as shown in figure 4.

1. The front mounting shoes are fastened to the bottom of the REFUSE-GETTER subframe with $5/8$ inch bolts. Note that there are three sets of holes in the shoes to allow adjustments for various widths of truck frames; use the holes which will bring the small angles on the lower side of the shoes in position to straddle the truck frame snugly.
2. The rear shoes are also provided with several sets of holes to allow installation on various truck frames. Choose the holes which will center the shoe over the truck frame flange and fasten through the holes provided in the subframe flange.
3. With shoes attached, lift entire REFUSE-GETTER with crane and swing into position over truck frame, lowering it until the shoes rest in proper position on the truck frame. The fenders should be centered over the rear tires as nearly as possible. If truck frame rivets or other parts prevent mounting shoes

from resting on truck frame, it will be necessary to drill holes in the shoes, in case of rivets, or cut away part of the shoes to clear.

4. If the bolt at the rear end of the rear shoes is in line with the truck frame, drill a hole through the truck frame so the bolt can be passed through subframe, shoe and truck frame. If not in line with truck frame, this bolt should be used to attach the shoe to the subframe only. Then, a hole should be drilled through the truck frame flange in line with one of the other holes in the shoe, and a separate bolt used to fasten the shoe to the truck frame.
5. The wooden sills can now be put in position and fastened with wood screws through the holes in the lower flange of the subframe.
6. Finally, fasten the entire unit to the truck frame as shown with the long bolts and straps.

DRIVE SHAFT ASSEMBLY

The drive shaft is supplied several inches longer than required in order to allow for any variations in mounting. It is to be cut to proper length and installed according to the following procedure:

- a. Attach universal joint to power take-off, using woodruff key, and tighten set screws.
- b. Measure drive shaft for correct length by attaching the rear end to the pump shaft, and then holding drive shaft in position parallel to power take-off shaft. Mark point at which shaft is to be cut on square driving end, allowing for shaft to slide into sleeve on joint.
- c. After shaft has been cut to length, assemble by sliding square driving end into universal joint as far as it will go, then move shaft toward rear and attach universal joint to pump. Use the key that is attached to the pump shaft, and tighten set screws.

NOTE

It is important that drive shaft be installed with universal joint forks in position shown in figure 2 for correct operation.

CHECKING INSTALLATION

At this point it is suggested that all work done be checked over before beginning operation of the REFUSE-GETTER.

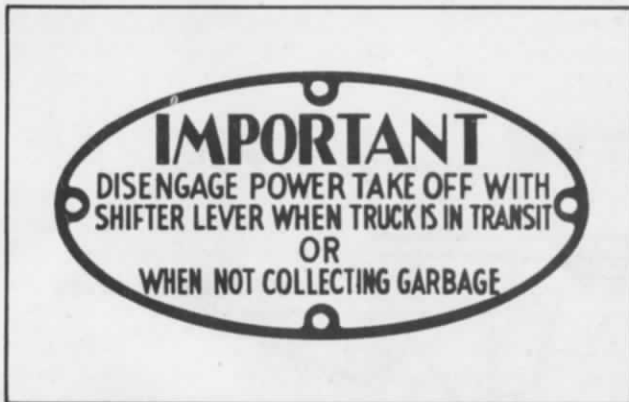


Figure 5 - Truck Cab Warning Plate

1. Is power take-off properly installed?
2. Does drive shaft rotate in proper direction

for correct pump operation?

3. Are all mounting bolts securely tightened?
4. Is there sufficient clearance between REFUSE-GETTER parts and truck parts?
5. Is pump drive shaft properly installed?

POWER TAKE-OFF WARNING PLATE

This plate, shown in figure 5, warns operators to disengage power take-off while driving truck. Failure to disengage will cause unnecessary wear on and possible damage to the hydraulic pump. Mount this warning plate on the dash-board of the truck within sight of the driver.

OPERATION

GENERAL

All control levers are grouped along the right-hand side of the REFUSE-GETTER for convenience of operation. On the same side of the body, above the rear fender, is attached

an instruction plate giving all necessary information for correct operation.

BEFORE OPERATING

1. Remove the nuts and the two hooks which

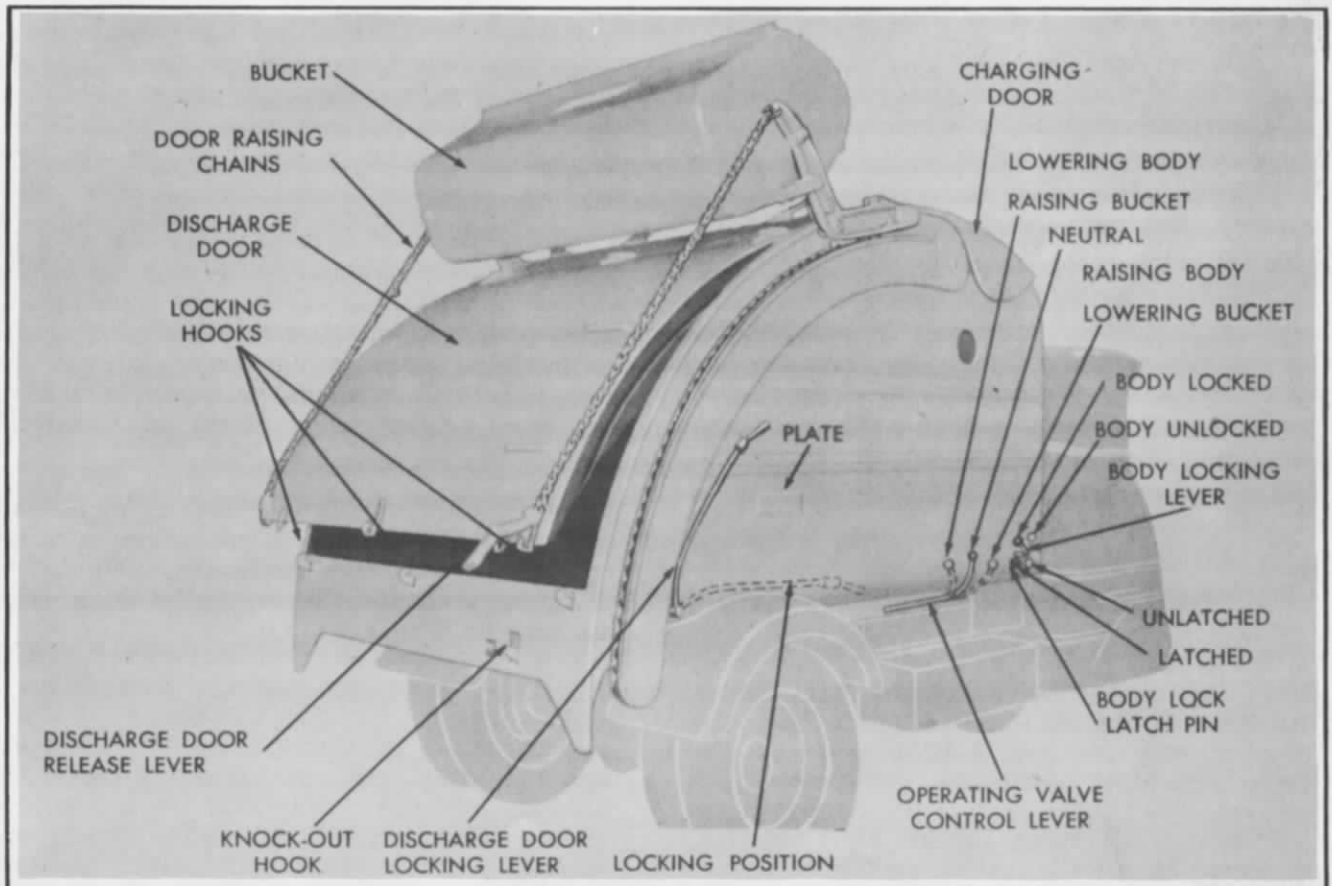


Figure 6 - Operating Controls

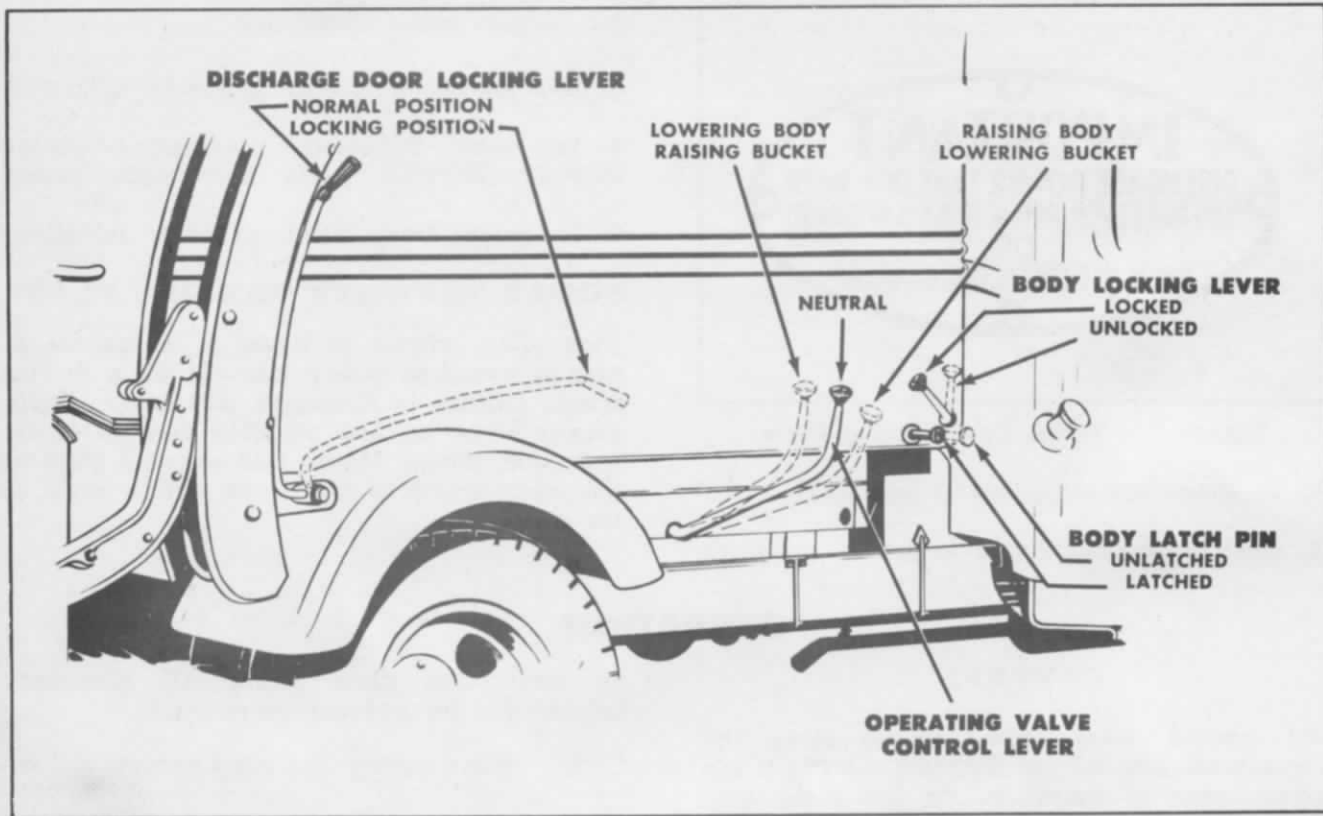


Figure 7 - Control Positions

are used to prevent bucket from tilting during shipment. One hook is fastened on each side of the bucket arms and through a hole in the rubber bumper support on the ends of the bucket.

2. Cut the wires which secure the chains for opening discharge door and uncoil chains.

3. Remove the two hooks, one on each side of the body, at the lower end of the chain track and bucket lifting chains, which are used to hold bucket in raised position during shipment. To remove the hooks, it is necessary to cut away the wires securing them in place and then operate the bucket as instructed below, moving the main control lever slightly to left so bucket rises a few inches. This will release hooks so they can be removed.

OPERATING CONTROLS

1. **MAIN CONTROL LEVER.** This lever controls the bucket operating and body lifting functions of the REFUSE-GETTER, in conjunction with the body locking lever. It has three operating positions: (1) center, or neutral, which is the normal position when the unit is not operating; (2) left-hand position, which is used for elevating loading bucket or lowering body, depending upon position of the

body locking lever; (3) right-hand position, which is used for lowering the loading bucket or elevating the body, also dependent upon the position of the body locking lever.

2. **BODY LOCKING AND GEAR CHANGE LEVER.** This lever has two positions and controls the functions of the main operating lever. When this lever is in the left-hand or counterclockwise position, the body is locked to the subframe, permitting the main control lever to operate the bucket. When the lever is in the right-hand or clockwise position, the body is unlocked from the subframe, permitting the main control lever to lift and lower the body.

3. **DISCHARGE DOOR LOCKING LEVER.** This lever is used to lock the rear dumping door. The lever is pulled downward to lock the door, and returns to the vertical position when the door is locked.

OPERATING PROCEDURE

1. **STARTING POWER TAKE-OFF.** First see that main operating lever is in the center, or neutral, position. Then start truck engine at idling speed, throw out engine clutch and engage power take-off with lever in cab. Release clutch and power take-off will begin to operate and drive hydraulic pump.

2. OPERATING BUCKET. The body locking and gear change lever must be in the left-hand (counterclockwise) position. If it is not, pull out locking pin as far as it will go, and shift the body locking lever to left. Locking pin must return to original position with flange against side of body. Shifting the main operating lever to left will elevate bucket to top of body where it will dump, reverse, and return to loading position and automatically stop. If it is desired to stop bucket at any point before completion of cycle, move the main operating lever to neutral (center) position. Bucket may again be started upward by shifting the main operating lever to left, or downward by shifting it to the right. When the bucket reverses at dumping position, the control lever automatically moves to extreme right position, and when bucket returns to loading position and stops, the lever automatically moves to the center (neutral) position.

CAUTION

Do not attempt to hold the main operating lever in either left or right position while it is moving.

3. OPERATING BODY.

NOTE

Before raising body, the bucket must be elevated to a position where the red arrow on top of chain track guard points to the red circle on bucket arm push rod, or any point beyond up to dumping position.

Pull out body locking pin and shift the body locking and change gear lever to the right in vertical (clockwise) position. Locking pin **MUST** return to original position with flange against side of body before body is raised. Next shift the main operating lever to right and body will rise, stopping automatically when it reaches maximum height. Note that operating lever returns to center position when body stops. To lower body, shift the main operating lever to extreme left position. When body approaches subframe, move operating lever to center position to prevent body from coming down too fast at this point. Then move lever slightly to the left to ease body down on subframe slowly.

When body comes to rest on subframe, return main operating lever to neutral position.

WARNING

Do not lower body when power take-off and pump are not operating, or oil may overflow oil tank.

4. OPERATING DISCHARGE DOOR. Hook chains attached to bottom of door to eyes on lower ends of bucket arms. Then raise bucket until chains have opened door to the desired position. Shifting operating lever to neutral position will hold bucket and door in place. Body can then be raised as described above and contents emptied. To close discharge door, shift main operating lever to right and lower bucket. Stop bucket just before it reaches loading position and remove chains from bucket arms, hanging them on the hooks provided on the door. To lock the door, pull discharge door locking lever downward as far as it will go and let it return to vertical position.

NOTE

If body locking and change gear lever does not move easily when body locking pin is pulled out, shift main operating lever to right slightly to permit engagement of gear teeth.

OPERATING MECHANISM

1. HYDRAULIC SYSTEM. The hydraulic system includes the oil tank, pump, valves, cylinder, and oil lines. The total oil capacity of the entire system is approximately 10 gallons. Following is a description of the hydraulic system parts, with data regarding their function in the circuit.

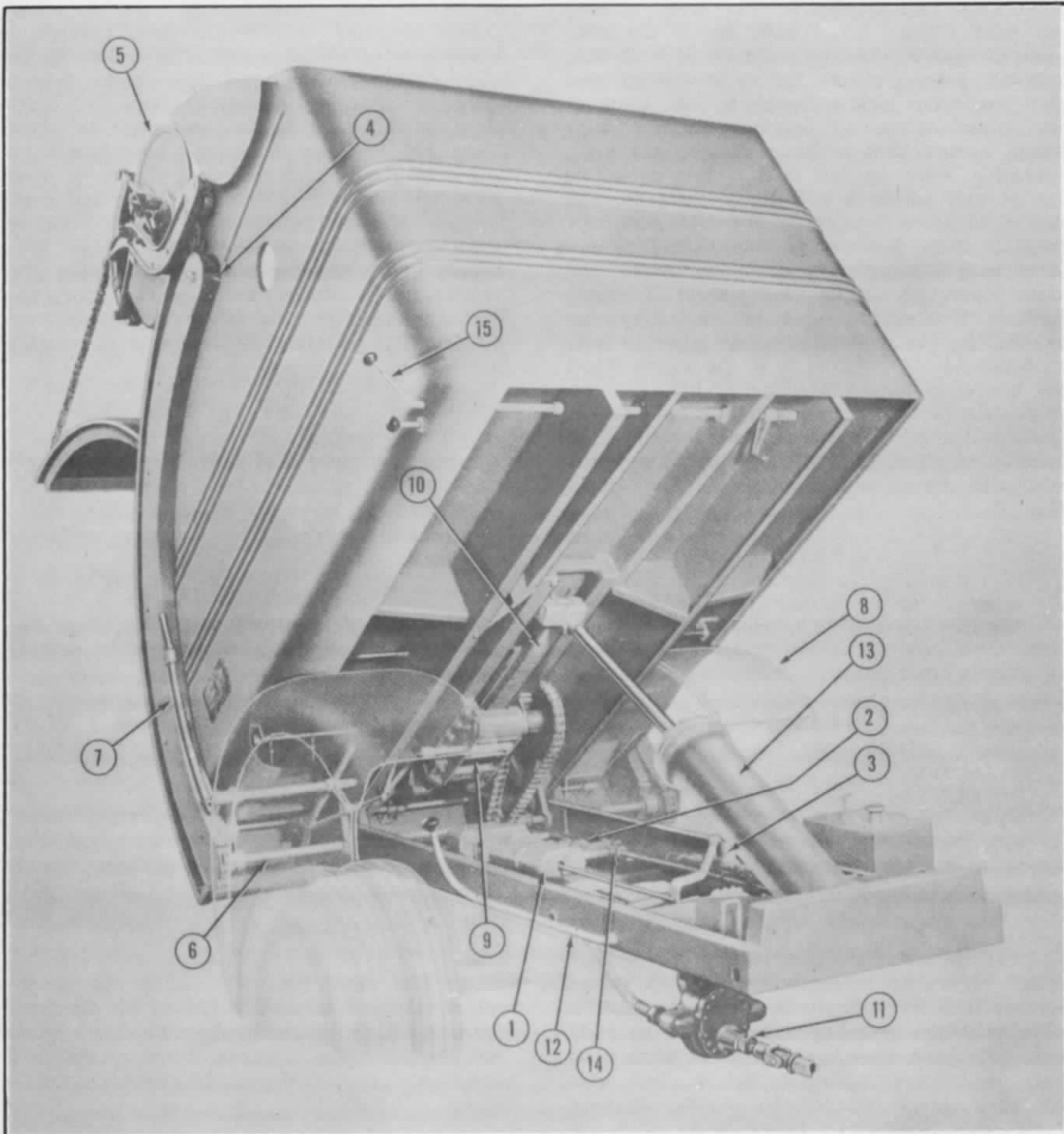
a. OIL TANK. Capacity when filled to the proper level as indicated by the upper mark on the oil level stick is 5 gallons. The oil level should not be allowed to fall below the lower mark on the stick, or air will be drawn into the hydraulic system.

b. OIL FILTER. The filter is located inside the oil tank, and filters all oil drawn from the tank by the pump. The filter should be removed and cleaned once a month to insure an adequate supply of clean oil for the pump.

c. HYDRAULIC PUMP. The pump is a low-speed, high pressure gear type and is equipped with Timken roller bearings. Racing the truck engine or driving the truck with the power take-off and pump operating should be avoided as this excessive speed will shorten the life of the pump. When it becomes necessary to overhaul the pump, we recommend that it be returned to the factory, where it will be thoroughly reconditioned.

d. MAIN OPERATING VALVE. This valve controls all operations of both loading bucket and body. Through movement of the control

Master Refuse-Getter



Legend

- | | |
|------------------------------------|-----------------------------------|
| 1 Main operating valve | 8 Fender assembly |
| 2 Bucket holding valve | 9 Pinion housing |
| 3 Foot valve | 10 Rack gear |
| 4 Chain track | 11 Hydraulic pump and drive shaft |
| 5 Loading bucket | 12 Valve operating lever |
| 6 Bucket drive shaft | 13 Main operating cylinder |
| 7 Discharge door locking mechanism | 14 Piping assembly |
| | 15 Body locking mechanism |

Figure 8 - Operating Mechanism

lever the position of the valve plunger is changed so that the operating cylinder can be made to operate in either direction.

e. OPERATING CYLINDER. This is a double-acting type cylinder, oil being pumped into either end to operate bucket or body, depending upon position of control levers and valve. The cylinder is 7 inches in diameter, has a 2 inch piston rod, and a stroke of 27 inches.

f. BUCKET HOLDING VALVE. This valve acts as a brake in the oil line and aids in holding the loading bucket in raised position; it also prevents the bucket from descending too fast when being lowered.

g. FOOT VALVE. All oil that is returned to the oil tank after flowing through the hydraulic system passes through the foot valve before entering the tank. The foot valve acts as a pressure equalizer and keeps upper end of operating cylinder full of oil if body is lowered too fast.

2. MECHANICAL SYSTEM. Power from the hydraulic operating cylinder is transferred through a gear and chain mechanism to the loading bucket. The operation of these parts is explained as follows:

a. RACK GEAR. The rack gear is located beneath the floor of the REFUSE-GETTER body and operates on rollers within a set of heavy steel track channels. The forward end of the rack gear is attached to the operating cylinder piston rod by means of a crosshead or 'Tee' casting. Movement of the cylinder piston causes the rack gear to move either forward or backward within the track channels, raising or lowering the bucket. Attached to the front end of the rack is the knock-out rod which travels back with the rack while the bucket is being lowered. When the bucket nears the loading position, the stop piece on the end of the knock-out rod contacts the knock-out lever attached to the main operating lever and moves the main operating valve to neutral position.

b. PINION HOUSING. This unit is mounted on the track channels just below the rack gear. It contains the pinion shaft and bearings assembly. Power from the rack gear is transferred to the pinion and its shaft. On the left end of the shaft is a large sprocket which is connected by a roller chain to the bucket drive shaft. A locking dog, controlled by means of the body locking lever, engages the teeth on the rack gear, which locks the



Figure 9 - Loading Position



Figure 10 - Charging Position

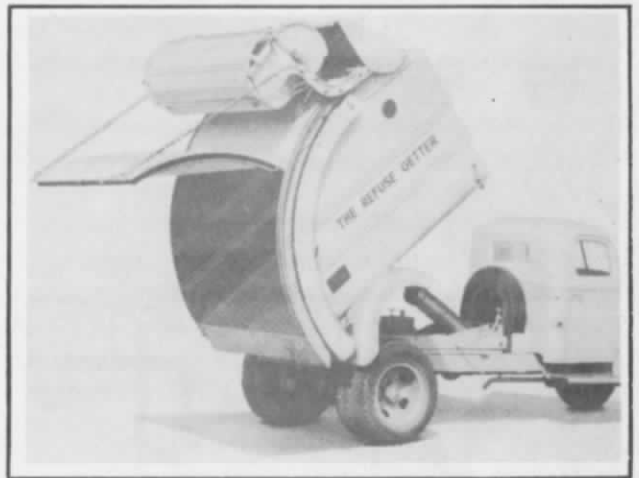


Figure 11 - Dumping Position

rack gear and prevents it from moving when the piston in the main operating cylinder raises or lowers the body. When the bucket

is operated, the locking dog is disengaged from the rack gear, allowing the rack to be moved by the main operating cylinder. A safety lock is provided to prevent movement of body locking lever from disengaging locking dog when body is in raised position. (See figure 18.)

c. BUCKET DRIVE SHAFT. From the large sprocket on the end of the pinion housing shaft, power is transmitted by the main drive chain to the sprocket in the center of the bucket drive shaft. This shaft extends across the rear end of the subframe and has a sprocket on each end that drives the bucket lifting chains.

3. CYCLE OF OPERATION.

a. NEUTRAL POSITION OF MAIN VALVE. (See figure 12.) With the main operating valve in the neutral position, oil is by-passed under low pressure from pump to tank. The main center plunger P is held in position by means of a valve control mechanism which is attached to the rear end of plunger P. This control mechanism consists of two arms A and B which may pivot up or down on pivot bolt C. These hinged ends of the arms are pinned to the vertical shaft D. The rear ends of the arms are equipped with rollers E which roll on a cam F when valve lever is moved. The rollers are held in the position selected by tension of spring G which holds rollers in large Vee of cam when in neutral

position. The flow of oil through the system is indicated by the arrows. The pump draws oil from the tank and passes it up through the bottom of the main operating valve. From the valve the oil flows down through another pipe and into the foot valve. The oil forces the plunger H open against its spring, and passes out of foot valve into tank.

b. RAISING BODY OR LOWERING BUCKET. (See figure 13.)

(1) RAISING BODY. Operating lever is shifted to right, or forward position, which moves center plunger of valve to the same position. It is held in this position by tension of spring G pulling rollers E into notches on top and bottom of cam F. Oil flow as indicated by arrows is from tank to pump and to main operating valve. From the main operating valve, the oil passes out the side pipe outlet through oil line directly to lower end of operating cylinder, thus raising the body. As the body rises, return oil from upper end of cylinder flows through pipe indicated by arrows to bucket holding valve. Inside the bucket holding valve, plunger Q is opened to allow oil to pass and flow to main valve through side pipe. From the main valve the oil flows downward through pipe line to the foot valve and to tank. When body reaches maximum height the piston contacts the top end of the cylinder which causes a higher pressure to build up in the oil lines. This pressure, through a passage L within the main valve, flows to knock-out plunger K,

Main Operating Valve

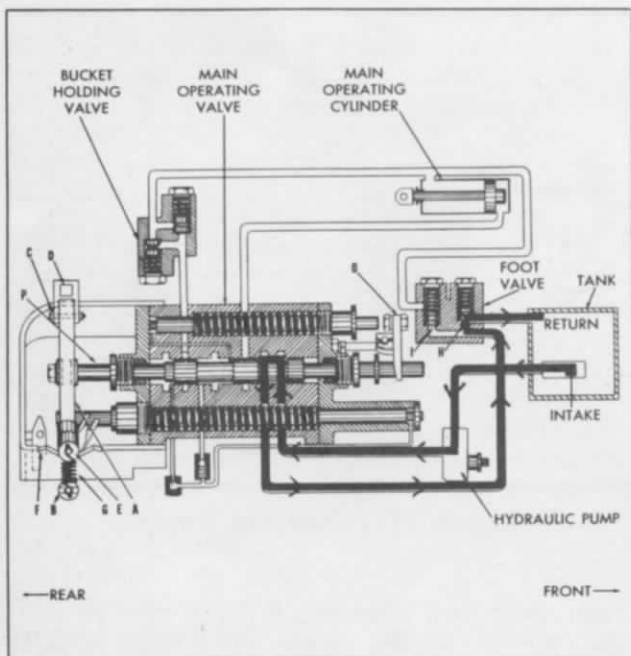


Figure 12 - Neutral Position

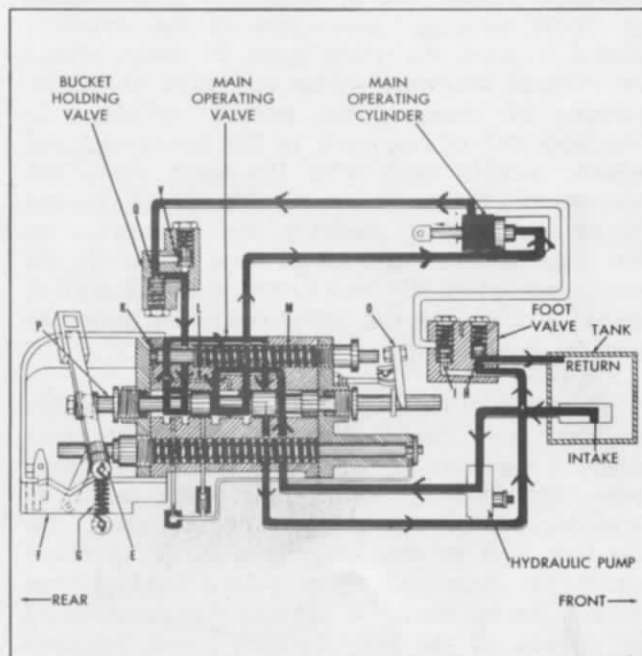


Figure 13 - Raising Body, Lowering Bucket

forcing it outward against pressure of spring M. The outer end of the plunger contacts lever O which pivots against flange on main plunger and forces it to the rear so that arms and rollers of mechanism hold it in neutral position. The body is held in raised position by the center plunger in the main valve, shutting off the oil openings.

(2) LOWERING BUCKET. Position of both operating lever and valve are the same as for raising body. Oil flow is also the same. However, since the body is locked by hooks gripping subframe, operating cylinder piston moves outward and pushes the rack gear toward rear of machine. The knock-out rod, which is attached to the front end of the rack gear, also moves back until the stop piece on its forward end contacts the knock-out lever and moves it back so as to pull operating lever to neutral position. This stops bucket at proper loading position. In the event this stop fails to operate, the rack gear will continue to move back until it comes up against the stop bar which is built across the rack track channels. When the rack contacts this stop, the cylinder piston cannot move any further, and a pressure is built up in the cylinder, thus causing the main operating valve to be thrown to neutral position the same as explained above when body reaches highest position. Referring to figure 13, note that oil pressure opens plunger Q against spring pressure. When bucket is stopped at any point of travel, the tension of this spring

prevents plunger from opening and oil cannot pass. This holds bucket in elevated position. This spring and plunger also act as a brake when the bucket is lowered when loaded. When the discharge door is being closed by lowering the bucket, the braking effect prevents the bucket from descending too fast due to the additional weight of the door.

c. RAISING BUCKET OR LOWERING BODY. (See figure 14.)

(1) RAISING BUCKET. Operating lever is shifted to rear position which moves plunger P to position shown. As indicated by arrows, oil from tank passes to pump and valve. From the side outlet pipe on the valve the oil flows through the bucket holding valve, opening plunger V to allow oil to pass. From there it enters the upper end of the operating cylinder and causes the piston to travel inward, which pulls rack gear forward and operates bucket. The return flow of oil from the lower end of the cylinder flows directly back to the main operating valve. From there it passes through the foot valve and into the tank. When bucket reaches highest position, the piston rod strikes the bottom of cylinder and causes a higher oil pressure to build up. This pressure, through the 3/8 inch diameter oil line beneath the main valve, exerts pressure on reversing plunger R and forces it outward, compressing spring T. As the plunger comes out, the lever W pivots against the upper end of lever U, causing it to turn so lower end of U pushes lower roller arm B far enough so tension of spring G will pull rollers to center position of cam. Since this puts valve plunger P in neutral position, there is no longer any pressure on plunger R which is pulled inward by spring T. Lever W, attached to the plunger, pulls top roller E and both top and bottom roller arms to forward position, which moves plunger P to lowering bucket position and oil flow is then as explained under that heading.

(2) BUCKET REVERSING DETAIL. Referring to figure 14, note ball-type check valve Y and restricting valve Z which are located in the 3/8 inch diameter tubing directly under the main valve. The ball check opens and allows oil from supply line S to operate plunger R outward to reverse valve mechanism as explained. When plunger R returns to inward position the ball check is closed so that return oil forced out by the plunger must pass through the restricting valve Z. This is a needle-type valve with a very small oil passage, so that flow of oil is slowed and plunger R will move slowly to

Main Operating Valve

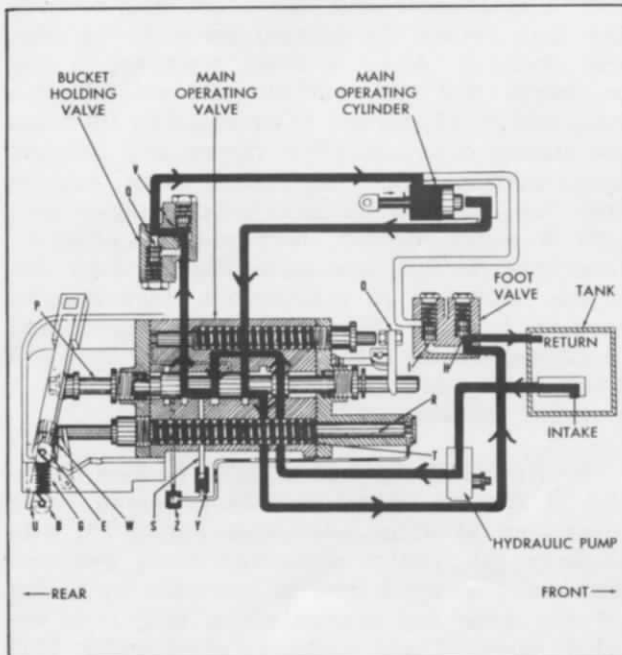


Figure 14 - Lowering Body, Raising Bucket

inward position. This is necessary so that lever W will contact roller E and operate mechanism properly.

(3) LOWERING BODY. Position of operating lever and valve is the same as for raising bucket. Oil flow through system is also the same. The arrows show oil being pumped under pressure into upper end of cylinder. Due to the weight of the body, the piston is forced into the cylinder faster than the pump is able to deliver oil to the cylinder, which tends to leave an empty space in the upper end of the cylinder. To overcome this, the oil that is forced out of the lower end of the cylinder flows through the foot valve and back into the upper end of the cylinder. Referring to the figure 14, note arrows showing oil flowing from lower end of cylinder through main valve to foot valve. Spring on plunger H in foot valve is considerably stronger than spring on plunger I, which allows

plunger I to open so oil can flow to upper end of cylinder. Due to space taken up by the piston rod, all of the oil from the bottom end of the cylinder cannot go into the top end; therefore this surplus, or differential, forces plunger H open and returns to tank.

(4) BODY LOWERING OIL FLOW CONTROL DETAIL. If the balance of the two springs becomes upset, so that plunger H opens before I, oil will flow directly into tank from foot valve and upper end of cylinder will not be filled. If this happens, operation of bucket may be very uneven, or jerky. Also, excess of oil in tank may cause it to overflow through filler or oil stick opening. To correct this condition, check springs and see that the heavier one is on plunger H. If necessary, one or two washers may be placed on top of the spring under the cap as shims to increase its tension. This should never be done to spring on plunger I, however.

ADJUSTMENT

CAUTION

For safety when making adjustments with body raised, always use a substantial brace or support under body. When adjustments are made on the bucket or any part of the operating

mechanism, including all valves, bucket should be blocked in place, or bucket lifting chains may be locked against movement by putting large C'clamps on chain and chain track.

MAIN OPERATING VALVE

1. BUCKET LIFTING CAPACITY.

a. BASIC ADJUSTMENT. The valve mechanism is so constructed that it will lift a

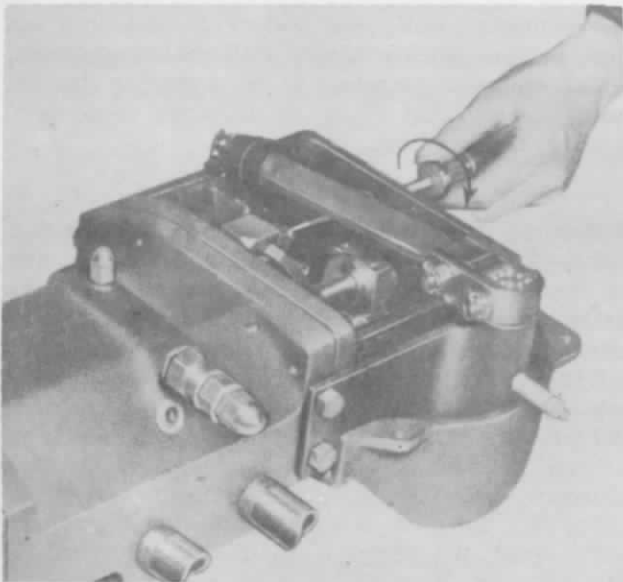


Figure 15 - Main Valve Adjustment

maximum load of only 700 pounds, as indicated on the plate attached to rear of bucket. If this load is exceeded, the valve will reverse and then return the control lever to the neutral position. After a time, however, it may be found that the bucket will not lift this load, and an adjustment is provided to increase the lifting capacity. (See figure 15.) Remove cover casting from rear end of valve. Loosen lock nut on end of reversing plunger and, with a screw driver, turn plunger counterclockwise (to left) one turn. Tighten lock nut. If this increase is insufficient, turn plunger another turn to left. Maximum adjustment recommended is 6 turns. More than this will throw mechanism out of adjustment so that it may not reverse.

b. ADDITIONAL ADJUSTMENT. (See figure 30.) If further adjustment is required, it is necessary to shim reversing spring (2) with washers (5). Entire valve reversing mechanism and cam must first be removed by taking out the four cap screws which hold it to the valve body. Then unscrew pivot block (37) from plunger. Mark its position first so it can be put back in the same place later. Now

screw out packing box adaptor (27) and spring and plunger can be removed. Put one washer (5) on plunger as shown, replace spring on plunger, and reassemble all parts. When replacing cam bolts, cam should be moved about while bolts are being tightened so as to aid in getting cam in proper position. With bolts partly tightened, move valve operating lever to forward and rear positions to see that all parts of control mechanism move freely. Then tighten bolts.

2. BUCKET REVERSING.

a. As previously explained, the bucket is reversed by building up a back pressure in the cylinder which operates the reversing mechanism on the valve. If the bucket should fail to reverse, remove covers from mechanism at rear of valve and watch operation of parts as bucket reaches dumping position. Refer to paragraph 3-c (1), page 11, and follow through correct operation, noting point at which valve mechanism fails to operate. If reversing plunger fails to travel outward when reversing is supposed to take place, it may be due to bad leather cups in the operating cylinder. The cups may be worn only slightly so that the bucket will operate, but they will not hold the added pressure required for reversing. It is also possible that the safety by-pass valve setting is too low, so that the added pressure required for reversing causes it to open, resulting in loss of pressure. If the small oil line below the valve, which leads to the forward end and to the reversing plunger, is plugged, the reversing plunger may not operate either. To check this, disconnect elbow fitting (21, figure 30) attached to bottom of front valve cover. Then allow bucket to run to dumping position. Oil should come out at end of elbow if line is open, when pressure builds up for reversing bucket. If it is noted that reversing plunger does travel outward and remains there instead of returning to inward position, it is possible that reversing spring (2, figure 30) is broken. Refer to paragraph 1.b., page 12, for adjustment instructions on removing and replacing spring. Failure of the reversing plunger to return inward may also be due to the restricting valve (43, figure 30) being plugged. Instructions for cleaning are given in paragraph c. following.

b. (See figure 30.) As explained under paragraph 3.c. (1), page 11, reversing plunger traveling outward moves roller arms to center of Vee in cam. Then the small lever (34) pulls roller arms to top of cam as reversing plunger returns inward. If the lever

fails to do this, it may be worn on the upper pointed end so that it passes beneath the roller instead of pulling the roller to top of cam, or the spring (3) may be weakened so that top roller arm is allowed to rise over top of lever. Also check small spring (4) to see that tension of spring holds lever (34) against stop piece. Packing nuts should also be checked to see that they are not too tight so as to prevent automatic operation of valve plungers.

c. The time required for the bucket to reverse is controlled by the ball check valve (90) and the restricting valve (43). If the bucket reverses too slowly, the restricting valve is probably plugged. To clean, remove the pipe plug (42) and the brass pin which is attached to its inside end. Clean off the pin and also the hole into which it fits with a fine wire. There may be some small pieces of lint in the hole which can be taken out with a hook bent on the end of a piece of wire.

d. If the bucket does not reverse, the trouble may be located in the ball check valve (90). As previously explained, the purpose of this check valve is to close and force oil to pass through restricting valve when reversing plunger (82) is traveling inward; this slows reversing action so bucket will have time to empty contents. However, if ball check does not close, oil will pass through it instead of the restricting valve and valve mechanism will operate too fast so that bucket will not reverse. To check this, remove check valve from oil line beneath main valve and examine ball, spring, and seat. If spring is broken it should be replaced. If seat is damaged, entire check valve should be replaced.

3. BODY LIFTING CAPACITY, Figure 30.

a. The valve mechanism is adjusted at the factory to lift maximum body load. After a period of use it may require adjustment due to wear of parts or weakening of knock-out spring (1). Valve operating lever is supposed to remain in forward position until body is fully raised. If lever returns to neutral position before body is raised, valve knock-out is set at too low a pressure to raise body. To adjust for higher pressure, first remove front cover from valve, then loosen lock nut on cap screw on end of lever (83) and turn cap screw one turn to right, so as to increase clearance between head of cap screw and end of plunger. After tightening lock nut, operate body to determine if adjustment is enough. If necessary, turn cap screw another turn. When completed, lock the nut and wire in place.

b. If more adjustment is required than can be obtained by above, it is necessary to shim the knock-out spring (1) with washers (5). To do this, first remove lever (83) by taking out pin on which it pivots. Then, with a pipe wrench, turn out packing adaptor nut (27) so that spring and plunger come out. Place washer on plunger before spring as shown, and replace assembly in valve. Replace lever (83).

4. SAFETY BY-PASS VALVE. (See figure 30.)

a. Located on the top left-hand side of the main operating valve, the safety by-pass valve provides protection against unusually high pressure in the hydraulic system. If some part of the REFUSE-GETTER should fail to operate properly, causing the oil pressure to increase above normal, the safety valve will open and allow this high pressure to return directly to the tank. The safety valve consists of a steel ball, a spring, a hardened steel seat, and the necessary parts for its adjustment. It is set at the factory to open at 1300 pounds per square inch oil pressure and should not be adjusted to any higher pressure.

b. It is sometimes necessary to adjust the safety valve due to the spring tension becoming gradually weaker. Adjustment may be indicated if there seems to be no oil pressure and the REFUSE-GETTER will not operate. Also, if some parts of the machine operate but others do not, a distinct buzzing sound can sometimes be heard which is the safety valve opening and allowing the pressure to escape back into the tank. Adjustment is made as follows: Remove nut (94) which covers adjusting screw. Then loosen lock nut (95). With a screw driver, turn adjusting screw to right only one-half turn, as illustrated in figure 16. This increases oil pressure approximately 50 pounds. Then tighten lock nut while holding adjusting screw in position with screw driver so as not to disturb

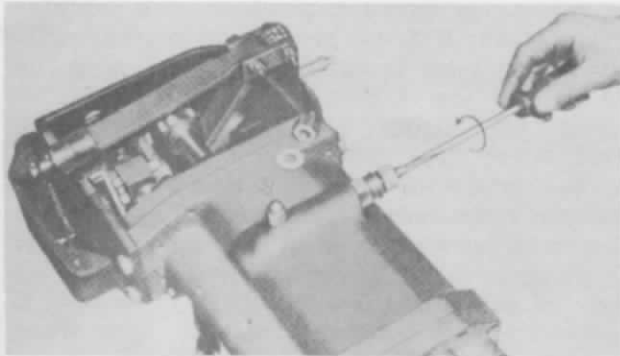


Figure 16 - Safety By-Pass Valve Adjustment

setting. Operate machine to see if adjustment is high enough to provide required pressure. If further adjustment is required, turn screw only a half turn each time, to avoid setting pressure any higher than necessary. If a hydraulic pressure gauge is available, it should be connected in one of the oil lines to test pressure. With a gauge installed in oil line connected to lower end of main cylinder, hold operating lever in forward position when body is fully raised. This will prevent knock-out plunger from operating and cause pressure to increase until safety valve opens. Maximum pressure reading on gauge should be 1300 pounds per square inch and is the pressure at which safety valve opens. If setting is not correct, readjust as explained above, to reading of 1300 pounds on the gauge.

5. PACKING GLANDS. (See figure 30.) Packing glands (38, 39, and 44) should be checked occasionally for leaks and tightened when necessary. Care should be taken to draw the packing nuts just snug enough to prevent leaks. Excessive tightening may interfere with automatic operation of the valve plungers. When new packing is installed it should be drawn down tight to seat packing properly, then packing nuts should be loosened slightly. Operate valve to see that packings are not too tight and to see if there are any leaks.

HYDRAULIC PUMP

No adjustments are necessary other than keeping the packing gland nut tight enough to prevent oil leaks. Care should, of course, be taken not to draw packing nut too tight, or pump shaft will heat up and possible score or wear excessively.

OPERATING CYLINDER

The only adjustment necessary is to tighten the packing gland nut occasionally to prevent leaks. The cylinder piston is equipped with two leather cups which will have to be replaced occasionally. After the cups have been in service for some time, the flange may wear and allow oil pressure to escape past the piston. This will cause the entire unit to operate more slowly than it should, or if the cups are very bad, it may not operate at all. Whenever it is necessary to disassemble the cylinder, care should be taken when putting it together again to get all piston and cylinder head bolts and nuts tight and locked with cotter pins or wire as provided.

BUCKET HOLDING VALVE

As described under paragraph 3.b. (2), page 11, the plunger held in place by the heaviest spring (2, figure 26) acts as a brake to hold bucket in elevated position. If bucket fails to

remain in raised position, especially when discharge door is open, check plungers and springs in bucket holding valve. Plungers are faced with a leather washer which must seat squarely on valve seat to hold oil pressure. If damaged, leather should be replaced. If leathers and plungers operate correctly and bucket still does not stay in raised position, holding plunger spring should be strengthened. This is done by removing the square headed cap (7, figure 26) and placing a washer (14, figure 26) under it on top of the spring. This increases tension of spring on plunger so that oil pressure from cylinder, due to weight of bucket, will not open plunger so easily.

FOOT VALVE

No adjustments are required in the foot valve, unless it becomes necessary to shim the springs as explained under paragraph 3.c. (4), page 12. The leather facings in the plungers should be inspected occasionally.

PINION HOUSING

1. LOCKING DOG ADJUSTMENT. The locking dog which engages with the teeth of the rack gear when body is raised is the only part that might require adjustment in the pinion housing. As explained under paragraph 2.b., page 9, the locking dog (16, figure 38) is operated by body locking and gear change lever at front end of body. When this lever is in vertical position, the rod (20, figure 38) is moved toward rear, and cam (47, figure 38) holds the locking dog in mesh with teeth of rack gear. In this position, the teeth on the locking dog should be snugly engaged with the rack gear. To check this, move body locking and gear change lever to vertical position, but do not raise body. Then, from beneath, push upward on locking dog. If there is more than 1/32 inch looseness, adjustment should be made by removing pin (6, figure 25) and backing off clevis (4, figure 25) from rod (9, figure 25; 20, figure 38) one turn. Insert pin, operate lever (8, figure 25) then feel for looseness at dog. If operating lever cannot be moved fully to vertical position, adjustment has probably been too much and clevis should be turned back one-half turn. This adjustment must, of course, be made with body lowered and resting on subframe.

2. INSTALLATION OF NEW PINION HOUSING.

a. REMOVAL. (See figure 38.) Old housing may be removed after first raising body and blocking it in place with a suitable support. The bucket should also be locked in place by clamping the chains to the chain tracks with

large C clamps; or, the hooks that were used during shipment of the REFUSE-GETTER may be used. The rack gear should also be locked, so it cannot roll backward when the housing is removed, by placing a clamp on one of the tracks behind the rack roller. Mark the location of the rack in relation to the track so it can later be placed in the same position when the new housing is installed. This is necessary so that the timing of the bucket operation cycle will not be upset. To remove the housing, first loosen the nuts (52) and take out the large adjusting bolts (10) at the rear end of the housing. Cam operating rod (20) is to be disconnected by removing cotter pin (58). Next disconnect drive chain (7) at connecting link and remove strut locking bolt (32, figure 37). Pin (13) will also have to be taken out so that bearing housing is free to move when pinion housing is moved. Finally, following figure 17, loosen the pinion housing nuts and slide the entire housing forward so that strut is pulled out of its socket in bearing housing. Then remove the nuts entirely; remove pinion housing. Placing a heavy plank beneath the housing will be helpful in handling the housing, using it as a lever to work the housing in or out of position as desired.

b. INSTALLATION. The new housing can now be lifted into position by the above method. Following figure 17, assemble several of the pinion housing nuts on the studs to hold the housing in place. The strut should be guided into its socket as the housing moves back. It is important that all of the shims that were used with the old housing be used with the new one. Replace adjusting bolts and tighten nuts so pinion housing is lined up straight, and tighten nuts on studs so housing is drawn tightly in place. This should bring pinion in proper mesh with rack gear. Before proceeding further, paint or chalk teeth on rack gear so that condition of mesh with teeth of pinion can be seen. Hold large drive sprocket on end of pinion shaft against turning, and remove clamp from track so rack gear can be moved. Now turn sprocket so that rack gear is made to travel forward and back its full length. There should be no binding at any point nor should there be any excessive looseness. At several points, turn the sprocket slightly in both directions, in a rocking motion, to feel the amount of backlash, or play, between the pinion and rack teeth. The amount of backlash should be very small, just enough so it can be felt. If there is excessive backlash, it will be necessary to remove one of the shims from each side of the housing. Likewise, if the mesh of the teeth is too tight, a shim will have to be added.

c. ADJUSTMENTS.

(1) Note markings on chalked teeth of the rack which will show if teeth are evenly meshed across the full width of the gears. If bearing is heavy on one side, loosen stud nuts slightly and turn adjusting bolt to bring pinion housing in proper alignment. Now move the rack gear to its original location according to the marks made previously. With rack in this position, replace drive chain. Proper tension on the chain is obtained by first loosening stud nuts, then turning adjusting bolts so as to move entire pinion housing forward or back, as required. When chain has been pulled just snug, tighten nuts on adjusting bolts and studs. The strut should now be turned in its socket until the locking bolt holes line up, and the bolt put in place. Do not turn strut back so far that bucket drive shaft is sprung out of line. Then replace pin (13, figure 37).

(2) (See figure 38.) The final step is to adjust the locking dog (16) and cam operating rod (20). Replace hooked end of rod in lever (15) and insert cotter pin; then operate body locking and gear change lever at front of body in both positions. With lever in vertical position, locking dog should be held firmly in mesh with the rack gear. Adjust, if

necessary, as explained under paragraph 1, page 15. With locking dog properly adjusted, place lever in vertical position and body may be raised as usual to remove support from under body. Clamps should also be removed from bucket chains before bucket is operated.

(3) Finally, operate bucket and once more check the markings on the chalked rack gear teeth to make sure meshing of gear teeth is correct.

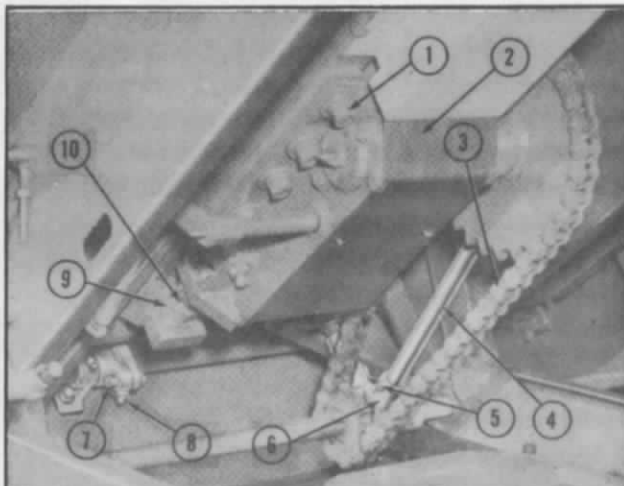
TIMING OF LOADING BUCKET

1. AT DUMPING POSITION. (See figure 38). After considerable operation, it may be found that the loading bucket does not travel as far at the dumping position as it did originally and it may not tilt far enough to completely empty. This is due largely to wear and stretch of the chains, and may be corrected in the following manner: First elevate bucket to highest point of travel and leave it in that position. Place hooks or clamps on bucket chains on each side of body so bucket cannot come down. Then disconnect main drive chain (7). The sprocket (40) on the end of the pinion shaft should be turned a distance equal to the space between two of its teeth, so that the drive chain will be moved one tooth over the sprocket. This is done by moving main operating lever (with pump running) quickly to forward position and back again as if to lower bucket. When sprocket has been turned the proper amount, replace chain. If this adjustment is not sufficient, the chain should be set over another tooth on the sprocket in the same manner.

2. AT LOADING POSITION.

a. The bucket is stopped at loading position by the knock-out rod attached to the rack gear as explained under paragraph 3.b. (2), page 11. To make bucket stop at a slightly higher position, loosen nuts on front end of knock-out rod shown in figure 18 and move stop piece toward rear. Then tighten nuts. To make bucket stop in a lower position, move stop piece toward front of unit.

b. (See figure 18.) If stop is adjusted too far, or for some reason fails to operate, the bucket will travel beyond the regular stopping point. It is then stopped by a safety hydraulic stop to prevent it from descending too low and causing damage. This safety stop is located at the rear end of the rack gear track channels. When the regular stop fails to operate, the rack gear continues to travel back until it contacts the safety stop. This causes a pressure to build up in the operating cylinder and valve, which operates the hydraulic



- 1 Pinion housing nuts
- 2 Pinion housing
- 3 Main drive chain
- 4 Strut
- 5 Locking bolt
- 6 Strut support bearing
- 7 Eccentric pin
- 8 Set screw
- 9 Locking nuts
- 10 Adjusting bolt

Figure 17 - Main Drive Chain and Discharge Door Adjustment

knock-out on the valve. This is the same knock-out that operates automatically when body stops in raised position.

MAIN DRIVE CHAIN

Take-up of drive chain (7, figure 38) is accomplished by moving entire pinion housing forward. Refer to paragraph 2, page 15.

BUCKET ROLLER CHAINS

Take-up on bucket roller chains is provided for by moving entire chain track forward to take up slack in chains. First remove the guards from the chain track. (See figure 19.) Then loosen all the clamping nuts and the bolt on the lower end of the chain track, which hold track against body. Actual take-up of the chain is made by turning the two 5/8 inch nuts up on the take-up rod so as to draw the chain track forward. When sufficient adjustment has been made, tighten all clamping nuts securely and replace guards. Care should be taken not to get chains too tight, which will cause excessive wear and loss of power. Take-up should only be made so that chains run smoothly and easily around track without buckling when bucket is loaded. DO NOT MAKE CHAINS TOO TIGHT.

DISCHARGE DOOR LOCKING MECHANISM

1. HOOK ADJUSTMENT. (See figure 33.) An adjustment is provided on the three locking hooks on the rear door to compensate for wear of locking parts or of the rubber gasket

on the door. When the door is locked, the hooks pass over center of the locking shaft so that hooks remain in locked position. If locking parts become worn so that hooks do not go over shaft center, door will not stay locked. To correct this condition, loosen set screws (4) which hold locking hook pins (5) in place. These pins are made eccentric, so that by turning the pins (by means of a rod through the holes in the end of the pin) the position of the hooks can be changed. Turn the pins so that the hooks are pulled inward toward the shaft. This shortens distance from hook to the locking loop on the door, so that the door will be locked tighter. If new hooks or other locking parts are installed, adjust eccentric pins first so that hooks are fully extended. Then adjust as necessary to lock door tightly.

2. TWISTED CHAINS. (See figure 33.) If door fails to open when chains are attached to bucket arms, chains may be twisted so that the one on the right-hand side of the door does not pull upward on release lever (16) before other chain pulls on door. To open door, chain must operate release lever against knock-out hook (15) so that door locking shaft turns and releases hooks from door.

BODY HOLD-DOWN HOOK

To adjust body hold-down hooks (10 and 11), figure 25, lower body and place lever (8) in left-hand position as for running bucket. Then adjust nuts on U-bolts (28) so there is a clearance between hook and U-bolt. Do not adjust too tight, as it may cause difficulty in shifting lever into left-hand position.

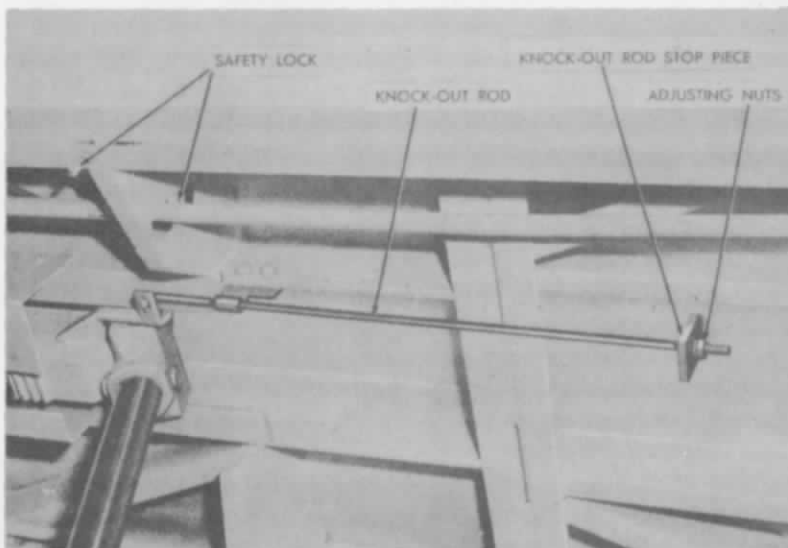


Figure 18 - Knock-Out Rod Stop Adjustment

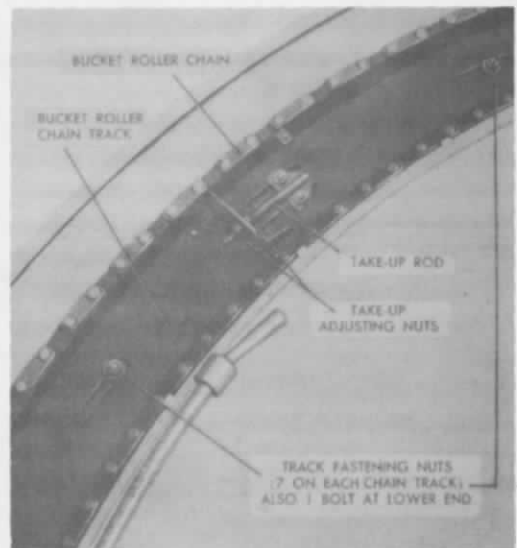


Figure 19 - Bucket Chain Adjustment

LUBRICATION

LUBRICANT								INTERVALS
SYMBOL	POINT OF LUBRICATION	TYPE OF LUBRICANT		SYMBOL	POINT OF LUBRICATION	TYPE OF LUBRICANT		
		SUMMER	WINTER			SUMMER	WINTER	
G	All Pressure Fittings	No. 2 Grease	No. 1 Grease	S	Bucket Lifting Chains	SAE 10 Motor Oil Mixed with Graphite		M—Monthly
O	Misc. Moving Parts	SAE 20 Oil	SAE 10 Oil					W—Weekly
CN	Rack Gear	Socony Vacuum Gargoyle CN Medium Grease		C	Hydraulic System	Wadhams "Arctic C" or equivalent Hydraulic Oil having 50 degree Cold Test		2W—2 Weeks

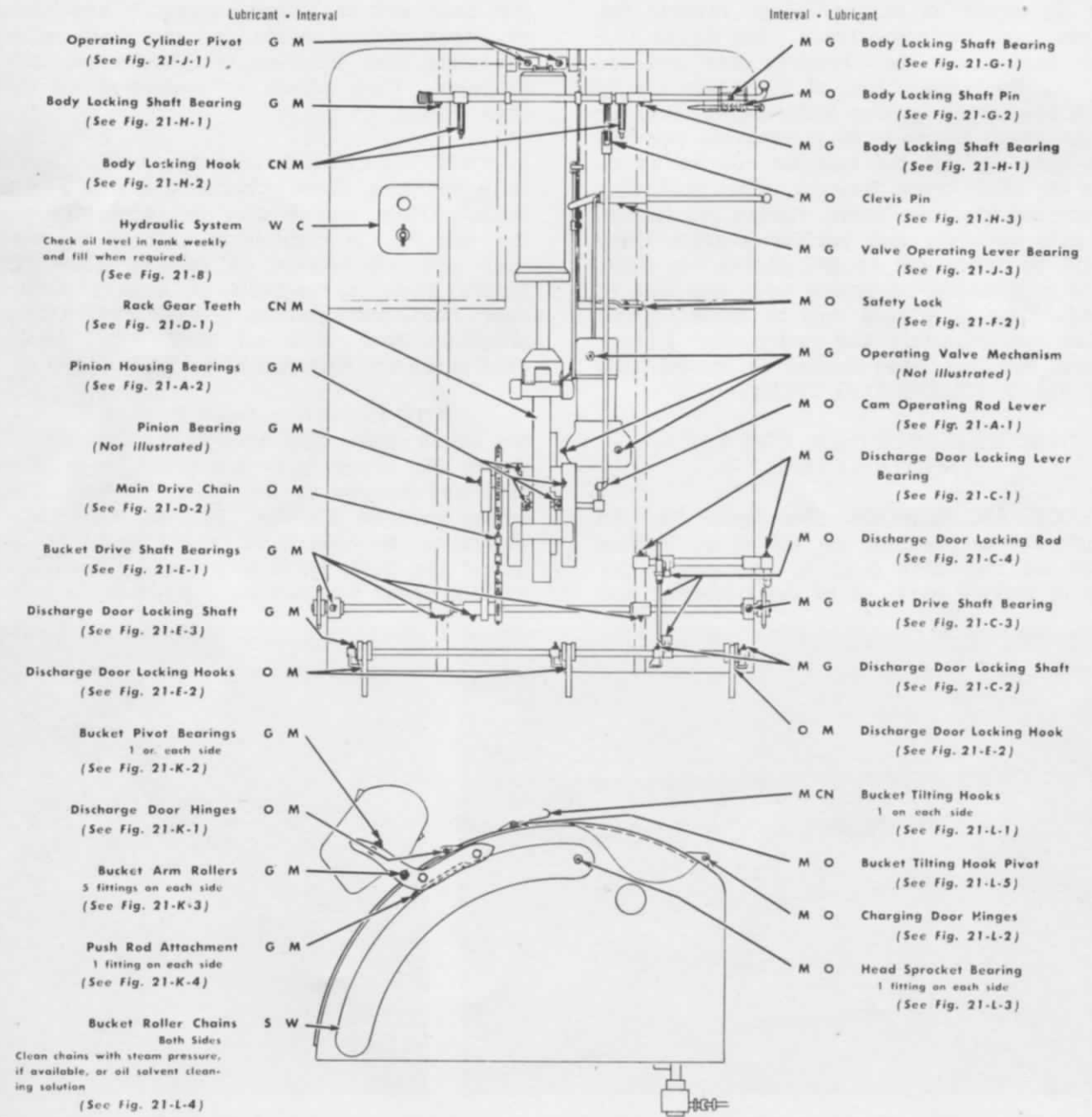


Figure 20 - Lubrication Chart

Lubrication

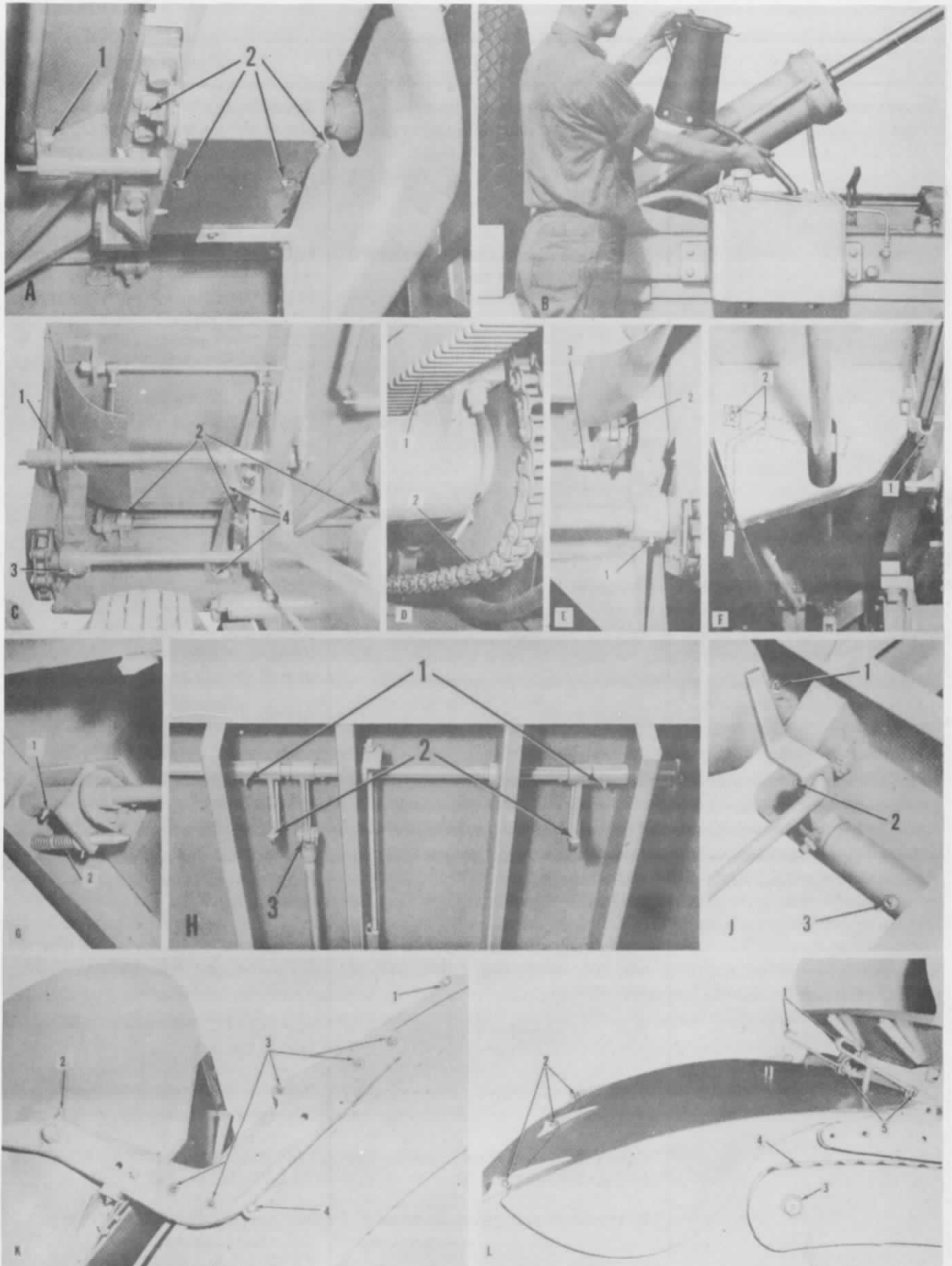


Figure 21 - Lubrication Views

Master Refuse-Getter

TROUBLE	CAUSE	REMEDY
<p>Bucket will not elevate.</p>	<p>Bucket overloaded.</p> <p>Upper leather cup in cylinder leaking.</p> <p>Valve reverses due to pressure setting being too low.</p> <p>Safety by-pass valve set at too low a pressure.</p> <p>Plunger in foot valve not seating properly. (Light spring side.)</p> <p>Pump does not deliver sufficient oil pressure.</p> <p>Filter plugged.</p> <p>Oil level in tank too low.</p> <p>Leak in oil line.</p> <p>Blown gasket.</p> <p>Oil line plugged.</p>	<p>Reduce loads per instruction plate on bucket.</p> <p>Check cups in cylinder; replace if necessary. See OPERATING CYLINDER (page 14).</p> <p>Adjustment required in reversing mechanism. See par. 1, BUCKET LIFTING CAPACITY (page 12).</p> <p>For adjustment, see par. 4, SAFETY BY-PASS VALVE (page 14).</p> <p>Check leather facings on plunger; see that plunger works freely.</p> <p>Replace pump.</p> <p>Remove and clean filter.</p> <p>Add oil to upper mark on stick.</p> <p>Check all oil lines; leaks can be located most easily when lines are under pressure.</p> <p>Check all gaskets and replace if necessary.</p> <p>Disconnect oil line at top end of cylinder and see if oil flows when control lever is moved to bucket lifting position.</p>
<p>Bucket will not reverse.</p>	<p>Upper leather cup in cylinder leaking.</p> <p>Reversing mechanism on rear end of operating valve out of adjustment.</p> <p>Restricting valve plugged.</p> <p>Ball check valve inoperative.</p> <p>Safety by-pass valve set at too low a pressure.</p> <p>Reversing spring may be broken.</p>	<p>Check cups in cylinder; replace if necessary.</p> <p>See par. 3.c.(1), RAISING BUCKET, and par. 2, BUCKET REVERSING (page 11).</p> <p>See par. 2.c., BUCKET REVERSING (page 13).</p> <p>See par. 2.d., BUCKET REVERSING (page 13).</p> <p>See par. 4, SAFETY BY-PASS VALVE (page 14).</p> <p>See par. 3.c.(1), RAISING BUCKET, and par. 2, BUCKET REVERSING (page 11).</p>

Trouble Chart

TROUBLE	CAUSE	REMEDY
Bucket will not reverse (cont'd.).	Packing glands on operating valve plungers too tight.	See par. 5, PACKING GLANDS (Page 14).
	Pump does not deliver sufficient oil pressure.	Replace pump.
	Leak in oil line.	Check all lines.
Bucket réverses too slowly.	Restricting valve plugged.	See par. 2.c., BUCKET REVERSING (page 13).
Bucket cannot be lowered.	Worn cup in lower end of cylinder.	Check cups in cylinder; replace if necessary.
Irregular operation of bucket.	Bucket lifting chains too tight, too dry, or too sticky.	Clean and lubricate. See Lubrication Chart (page 18).
	Main drive chain too tight, or too loose.	Adjust if necessary. See BUCKET ROLLER CHAINS (page 17).
	Bucket arm rollers not turning freely.	See par. 2.c.(1) ADJUSTMENTS (page 16). Clean and lubricate.
Bucket does not tilt far enough to empty entire contents into body.	Bucket timing requires adjustment.	See par. 1, AT DUMPING POSITION (page 16).
Bucket does not stop at desired point at loading position.	Bucket stop requires adjustment.	See par. 2, TIMING LOADING BUCKET AT LOADING POSITION (page 16).
Bucket will not remain in elevated position.	Bucket holding valve spring is too weak.	See BUCKET HOLDING VALVE (page 14).
	Cup on top end of cylinder is leaking.	Inspect cups in cylinder; replace if necessary.
	Plunger in foot valve not seating properly. (Light spring side.)	Check leather facing on plunger; see that plunger works freely.
Body will not lift.	Locking dog not fully engaged.	See par. 3, OPERATING BODY, and par. 1, LOCKING DOG ADJUSTMENT (pages 7 and 15).
	Cup in lower end of cylinder is bad.	Inspect cups in cylinder; replace if necessary.
	Main operating valve lifting pressure set too low.	See par. 3, BODY LIFTING CAPACITY (page 13).
	Safety by-pass valve set at too low a pressure.	See par. 4, SAFETY BY-PASS VALVE (page 14).
	Pump does not deliver sufficient oil pressure.	Replace pump.
	Blown gasket.	Check all gaskets.

Master Refuse-Getter

TROUBLE	CAUSE	REMEDY
Body will not lift (cont'd.).	Leak in oil line. Oil line plugged.	Check all lines. Disconnect oil line at bottom end of cylinder and see if oil flows when operating lever is moved to body lifting position.
Control lever does not return to neutral position when body reaches highest position.	Cup in lower end of cylinder is bad. Packing glands on center plunger in operating valve too tight.	Inspect cups in cylinder; replace if necessary. Loosen slightly.
Body will not stay up - comes down slowly.	Cup in lower end of cylinder is bad.	Check cups in cylinder; replace if necessary.
Body drops down from elevated position.	Locking dog was not fully engaged.	See par. 1, LOCKING DOG ADJUSTMENT (page 15).
Oil overflows from oil tank when body is lowered.	Spring tension on plunger in foot valve is too low. (Strong spring side.) Too much oil in tank.	Strengthen spring. See par. 3.c. (4), BODY LOWERING OIL FLOW CONTROL DETAIL (page 12). Reduce level to upper stick mark.
Entire machine will not operate.	Safety by-pass valve set at too low a pressure. Spring in safety by-pass valve broken. Oil filter plugged. Pump does not deliver sufficient oil pressure. Cups in cylinder leak, resulting in loss of oil pressure. Leak in oil line. Blown gasket. Not enough oil in tank.	See par. 4, SAFETY BY-PASS VALVE (page 14). See par. 4, SAFETY BY-PASS VALVE (page 14). Remove and clean filter. Replace pump. Check cups in cylinder; replace if necessary. Check all oil lines; leaks can be located most easily when lines are under pressure. Check all gaskets. Add oil to bring level to upper mark on stick.
Discharge door will not lock.	Hooks require adjustment.	See par. 1, HOOK ADJUSTMENT (page 17).
Discharge door will not open.	Chains may be twisted so that chain on right side of door does not operate release lever. Release lever may be bent.	Check chains. Check lever.
Body rises from subframe when bucket is operated.	Body locking hooks require adjustment.	See BODY HOLD-DOWN HOOKS (page 17).

PARTS CATALOG

HOW TO USE THIS PARTS LIST

1. Identify part to be ordered on the proper illustration on one of the following pages.
2. In parts list accompanying the illustration, find part number in the left-hand column; opposite this are, (1) the part name, (2) quantity required on each REFUSE-GETTER, and (3) code word which may be used when ordering by telegraph.

INSTRUCTIONS FOR ORDERING REPAIR PARTS

1. Give complete name and address of person or firm to whom shipment is to be made.
2. Give name and address of person or firm that is to be invoiced for shipment, if different than shipping address.
3. State if shipment is to be made by Parcel Post, Regular Express, Air Express, Freight, or Truck; also if any particular routing is desired.
4. Specify desired delivery date.
5. Give complete information for the parts ordered, including part number, part name, quantity, and any additional data that may be specified in the parts list for certain parts, such as truck information.
6. Give number of parts book and page from which parts were ordered.
7. Give model and serial number of the REFUSE-GETTER on which the parts are to be installed. This information appears on the

operating instruction plate (figure 22) on the right-hand side of the body, just above the rear fender. Model and serial number should be recorded and kept on file for future reference.

8. Supply formal purchase order and order number.

9. If shipment is exempt from excise tax, exemption certificate must accompany order.

FOLLOWING IS A SAMPLE ORDER FILLED IN TO SUPPLY ALL NECESSARY INFORMATION. USE IT AS A GUIDE IN WRITING YOUR PARTS ORDERS.

COMPANY NAME OR CUSTOMER'S NAME STREET ADDRESS CITY OR TOWN STATE					
TO: LEACH COMPANY 412 S. MAIN STREET OSHKOSH, WISCONSIN					
ORDER NO. _____ DATE: _____ SHIP BY: _____ SHIP TO: _____ DELIVERY DATE: _____					
QTY NO.	PART NO.	PART NAME	PAGE NO.	CATALOG NO.	MODEL & SERIAL NO. OF RG BODY
2	D20018-101	Roller Chain Assy.	39	105	Master #1326
12	D20048-101	Chain Link Assy.	39	105	* *
1	B21314	Pump Drive Shaft, length 40"	11	105	* *
1		Power Take-Off Assy. to fit a 1946 Dodge Truck model 38A-28, serial no. 157-8653.			
SIGNATURE: _____					



Figure 22 - Serial Number Plate

NOTE
 UPON RECEIPT OF SHIPMENT, check carefully with shipping papers. If shipment is damaged, file proper claim with transportation company.

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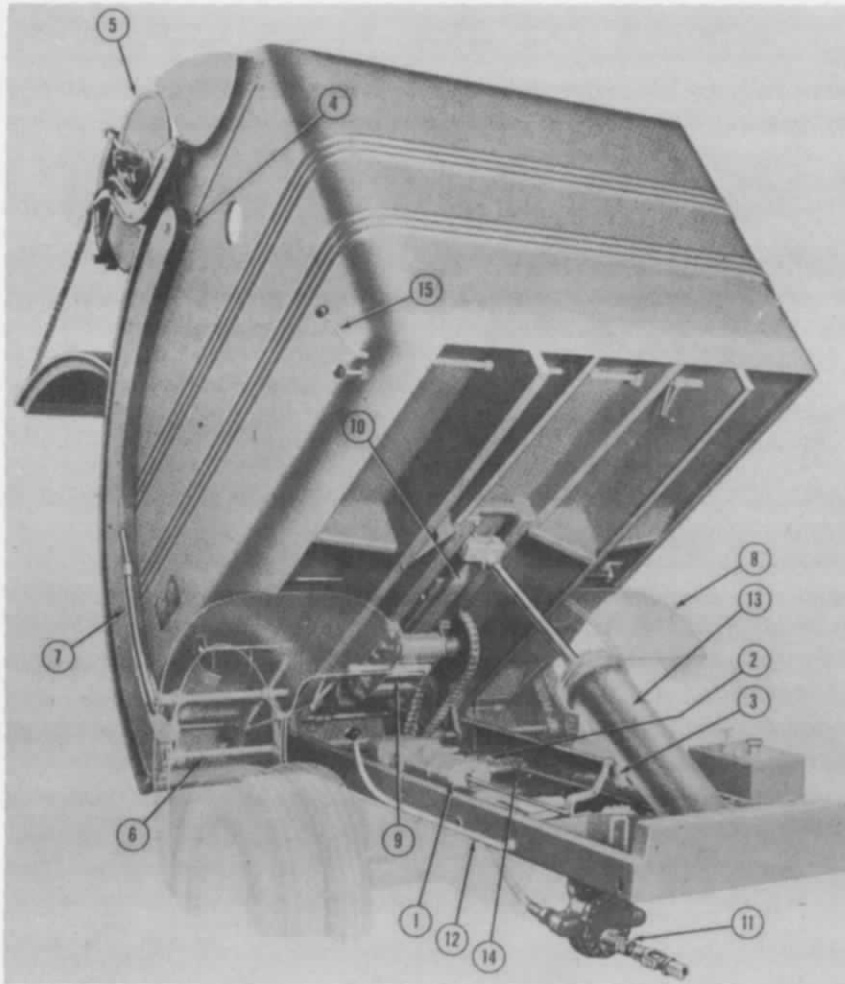


Figure 23 - General View of Main Assemblies

MAIN ASSEMBLIES
(See figure 23)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	B19516-104	Main Operating Valve Assembly (See figure 30)	1	ABART
2	B20022-101	Bucket Holding Valve Assembly (See figure 26)	1	RCOTR
3	B20023-101	Foot Valve Assembly (See figure 27)	1	UFABL
4	†	Chain Track Assembly (See figure 35)	2	
5	†	Loading Bucket Assembly (See figure 36)	1	
6	*	Bucket Drive Shaft Assembly (See figure 37)	1	
7	*	Discharge Door Locking Mechanism Assembly (See figure 33)	1	
8	†	Fender Assembly (See figure 35)	2	
9	†	Pinion Housing Assembly (See figure 38)	1	
10	†	Rack Gear Assembly (See figure 34)	1	
11	*	Hydraulic Pump and Drive Shaft Assembly (See figure 29)	1	
12	*	Valve Operating Lever Assembly (See figure 31)	1	
13	†	Main Operating Cylinder Assembly (See figure 32)	1	
14	*	Piping Assembly (See figure 28)	1	
15	*	Body Locking Mechanism Assembly (See figure 25)	1	

†Refer to detailed parts list and figure referred to for assembly part number.
*Not procurable as an assembly.

Parts Catalog

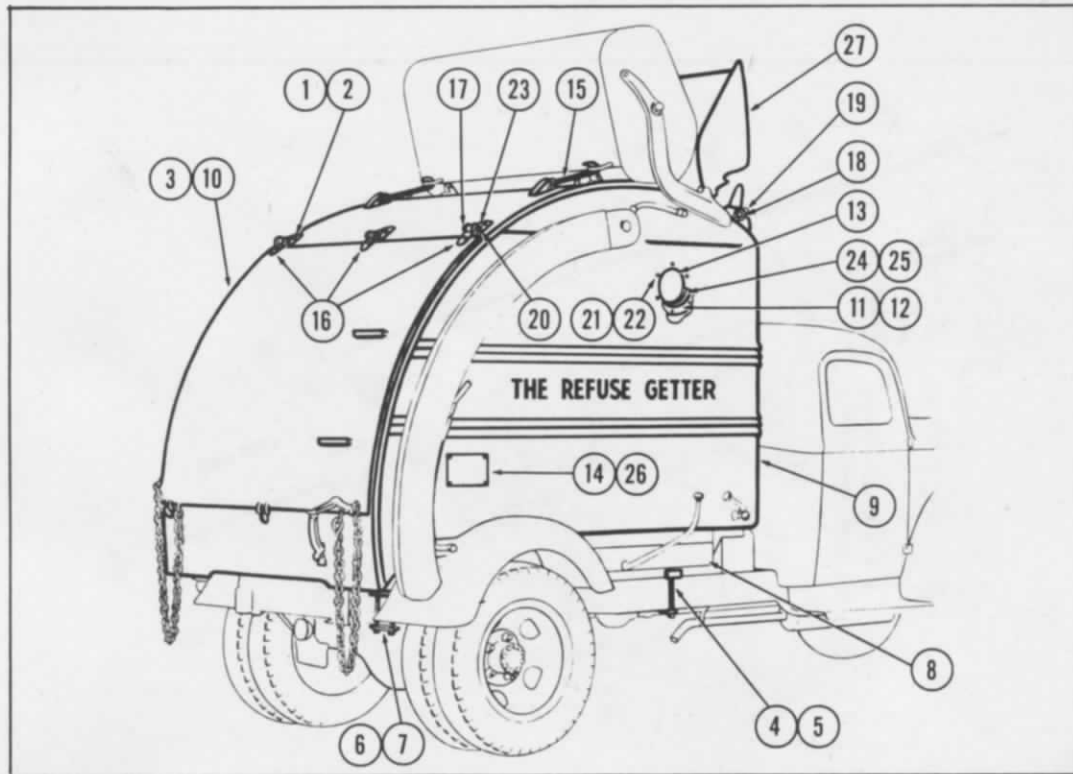


Figure 24 - Body and Fittings

BODY AND FITTINGS
(See figure 24)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	E19349-1	Shim .12 in. thick	6	BKART
2	E19349-2	Shim .16 in. thick	6	BAKFT
3	B19564-102	Discharge Door with Gasket	1	DROPL
4	D19608	Front Mounting Shoe L.H.	1	BAFIR
5	D19609	Front Mounting Shoe R.H.	1	DSTKA
6	B19610-101	Rear Mounting Shoe L.H.	1	BAHIT
7	B19610-102	Rear Mounting Shoe R.H.	1	BASOP
8	B19611	Subframe Assembly	1	DSTFO
9	B19634	Body Only	1	BESUP
10	D19841	Sealing Gasket	1	DAMOP
11	D20038	Window Assembly Complete less Bolts	1	BATHK
12	D20487	Window Frame Only	1	BOTZE
13	D20488	Window Glass	1	BARTF
14	D20570	Operating Instruction Plate	1	BARTE
15	B20590	Bucket Tilting Hook	2	DPLKM
16	D20592	Discharge Door Hinge	3	BRTFR
17	E20594	Hinge Pin for Discharge Door	3	BTKAE
18	E20627	Hinge Pin for Charging Door	3	BUTFK
19	B20650-4	Cotter Pin 3/16 x 1-1/4 in. lg.	6	BCORT
20	B20650-5	Carriage Bolt 1/2-13 N.C. x 1-1/2 in. lg.	4	BELOW
21	B20650-7	Rd. Hd. Stove Bolt 1/4-20 N.C. x 1/2 in. lg.	6	BERRY
22	B20650-8	Lock Washer 1/4 in.	6	BETTF
23	B20650-12	Cotter Pin 1/8 x 3/4 in. lg.	10	BEKOT
24	B20650-13	Rubber 5/32 x 3/8 x 22 in. lg.	1	BUDRT
25	B20650-14	Rubber 7/16 x 7/16 x 22 in. lg.	1	BARFU
26	B20650-17	Escutcheon Pin No. 11 x 3/8 in. lg.	6	BUSHE
27	B21168	Charging Door	1	BAFOT

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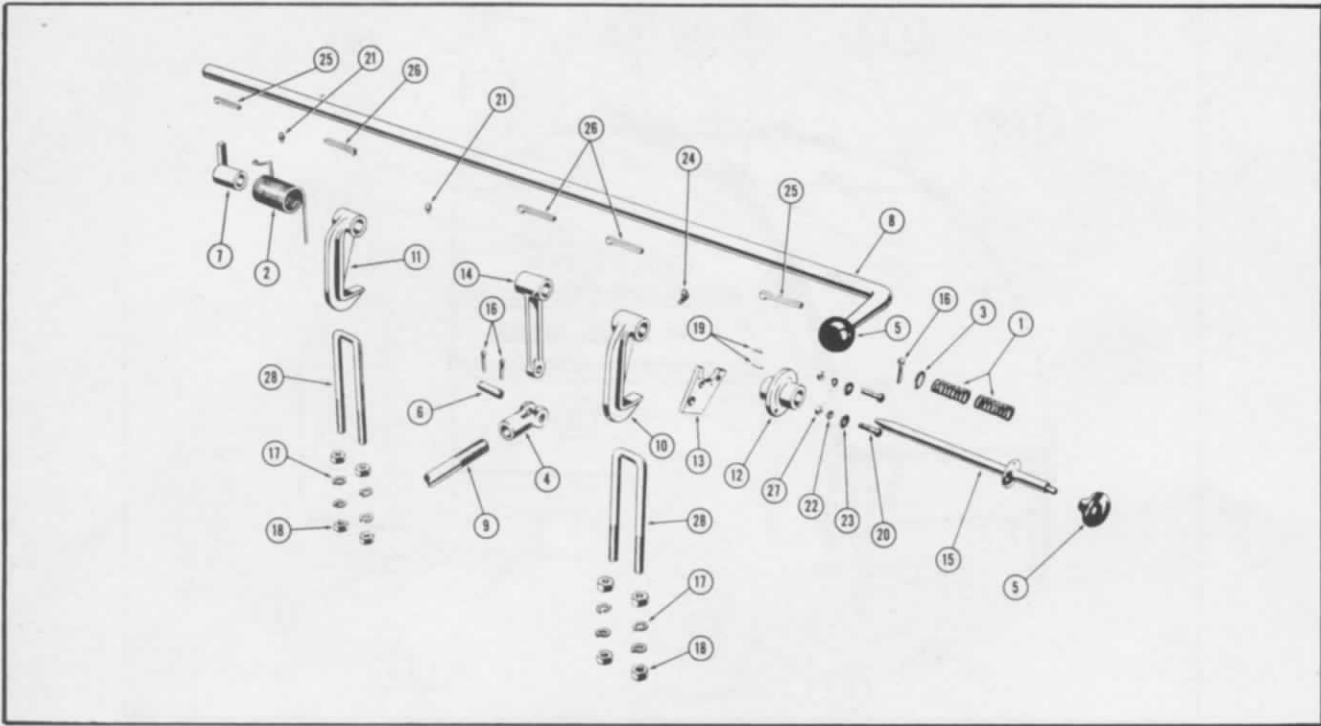


Figure 25 - Body Locking Mechanism Assembly

BODY LOCKING MECHANISM ASSEMBLY
(See figure 25)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	203-2	Spring	2	SMACE
2	215	Spring	1	SATRE
3	977-2	Washer	1	SMEOT
4	1119-2	Clevis	1	SMEVA
5	1152	Knob	2	SMOAY
6	E19345	Locking Rod Clevis Pin	1	SMOUS
7	D19601	Locking Shaft Spring Lever	1	SRUJA
8	D19623	Body Locking Shaft	1	SRUKE
9	D19680	Cam Operating Rod	1	SRATR
10	D19696-1	Body Hook R.H.	1	SEARS
11	D19696-2	Body Hook L.H.	1	SERIN
12	D19729	Locking Hub	1	SMEST
13	D19730	Locking Plate	1	SMITE
14	D19892	Locking Cam Lever	1	SERЕК
15	D20587	Body Locking Pin	1	SIRES
16	B20671-1	Cotter Pin 3/16 x 1-1/4 in. lg.	3	SMOAC
17	B20671-2	Lock Washer 5/8 in. S.A.E. Reg.	8	SILKO
18	B20671-3	Hex Nut 5/8 in.-11 N.C.	8	SMUAM
19	B20671-4	Taper Pin No. 1 x 3/4 in. lg.	2	SMOKT
20	B20671-5	Hex. Hd. Cap Screw 5/16-24 N.F. x 1-1/4 in. lg.	2	SMORT
21	B20671-6	Alemite Fitting No. 1610	2	SMUED
22	B20671-7	Lock Washer 5/16 in. S.A.E. Reg.	2	SMOLE
23	B20671-8	Std. Washer 5/16 in.	2	SMEMT
24	B20671-9	Alemite Fitting No. 1612	1	SMULE
25	B20671-10	Gib Key 1/4 x 1/4 x 2-3/4 in. lg.	2	SMAMD
26	B20671-11	Gib Key 1/4 x 1/4 x 2-1/2 in. lg.	3	SMIPR
27	B20671-12	Hex. Nut 5/16 in.-24 N.F.	2	SOTHO
28	D21098	Body Locking U-Bolt	2	SMOEF

Parts Catalog

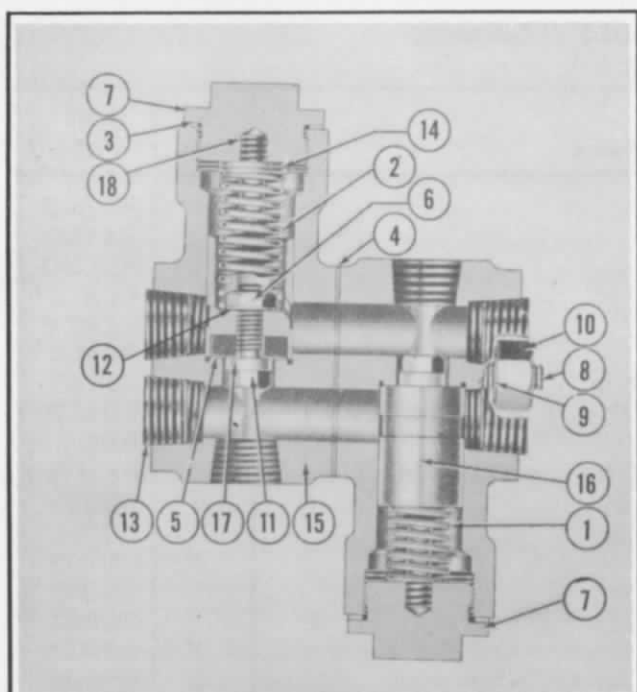


Figure 26 - Bucket Holding Valve Assembly

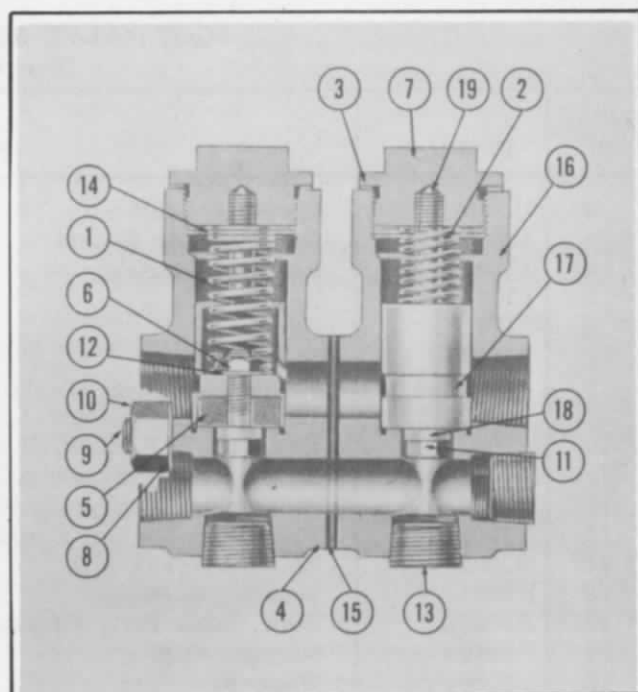


Figure 27 - Foot Valve Assembly

BUCKET HOLDING VALVE ASSEMBLY
(See figure 26)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
	B20022-101	Bucket Holding Valve Assembly	1	RCOTR
1	197-3	Spring - Light	1	RWARE
2	203-3	Spring - Heavy	1	RABUT
3	1006-12	Copper Ring Gasket	2	RATME
4	1199	Gasket	1	RBFTU
5	1226	Leather Washer	2	RELNO
6	1302	Hex. Nut	2	RLEMP
7	E19231	Valve Cap	2	RESLK
8	B20022-10	Hex. Hd. Cap Screw 1/2-20 N.F. x 5 in. lg.	2	RPETE
9	B20022-11	Shakeproof Lock Washer 1/2 in.	2	RSEAT
10	B20022-12	Hex. Nut 1/2 in.-20 N.F.	2	RHIKA
11	B20022-13	Hex. Hd. Cap Screw 5/16-18 N.C. x 1-1/4 in. lg.	2	RKMTU
12	B20022-14	Shakeproof Lock Washer 5/16 in. Int.	2	RUETS
13	B20022-16	Pipe Plug 3/4 in. Countersunk	4	RAMCL
14	B20022-18	Std. Washer 3/8 in.	6	RMATR
15	B20602	Bucket Holding Valve Body Casting Only	2	ROPAL
16	E20603	Plunger Only	2	ROMES
17	E20604	Washer	2	RPKAS
18	E20605	Stud	2	RTHLO

FOOT VALVE ASSEMBLY
(See figure 27)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
	B20023-101	Foot Valve Assembly	1	UFABL
1	195	Spring - Heavy	1	URUOW

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FOOT VALVE ASSEMBLY (Continued)
(See figure 27)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
2	197-3	Spring - Light	1	RWARE
3	1006-12	Copper Ring Gasket	2	RATME
4	1226	Leather Washer	2	RELNO
5	1302	Hex. Nut	2	RLEMP
6	1334	Gasket	2	VARTY
7	E19231	Valve Cap	2	RESLK
8	B20023-11	Shakeproof Lock Washer 1/2 in.	2	RSEAT
9	B20023-12	Hex. Hd. Cap Screw 1/2-20 N.F. x 5-1/4 in. lg.	2	UGACK
10	B20023-13	Hex. Nut 1/2 in.-20 N.F.	2	UHIKA
11	B20023-14	Hex. Hd. Cap Screw 5/16-18 N.C. x 1-1/4 in. lg.	2	UKMTJ
12	B20023-16	Shakeproof Washer 5/16 in. Int.	2	RUETS
13	B20023-17	Pipe Plug 3/4 in. Countersunk	3	UIMCL
14	B20023-19	Std. Washer 3/8 in.	3	UMATR
15	E20319	Separating Plate	1	UJLPO
16	B20602	Foot Valve Body Casting Only	2	ROPAL
17	E20603	Plunger Only	2	ROMES
18	E20604	Washer	2	RPKAS
19	E20605	Stud	2	RTHLO

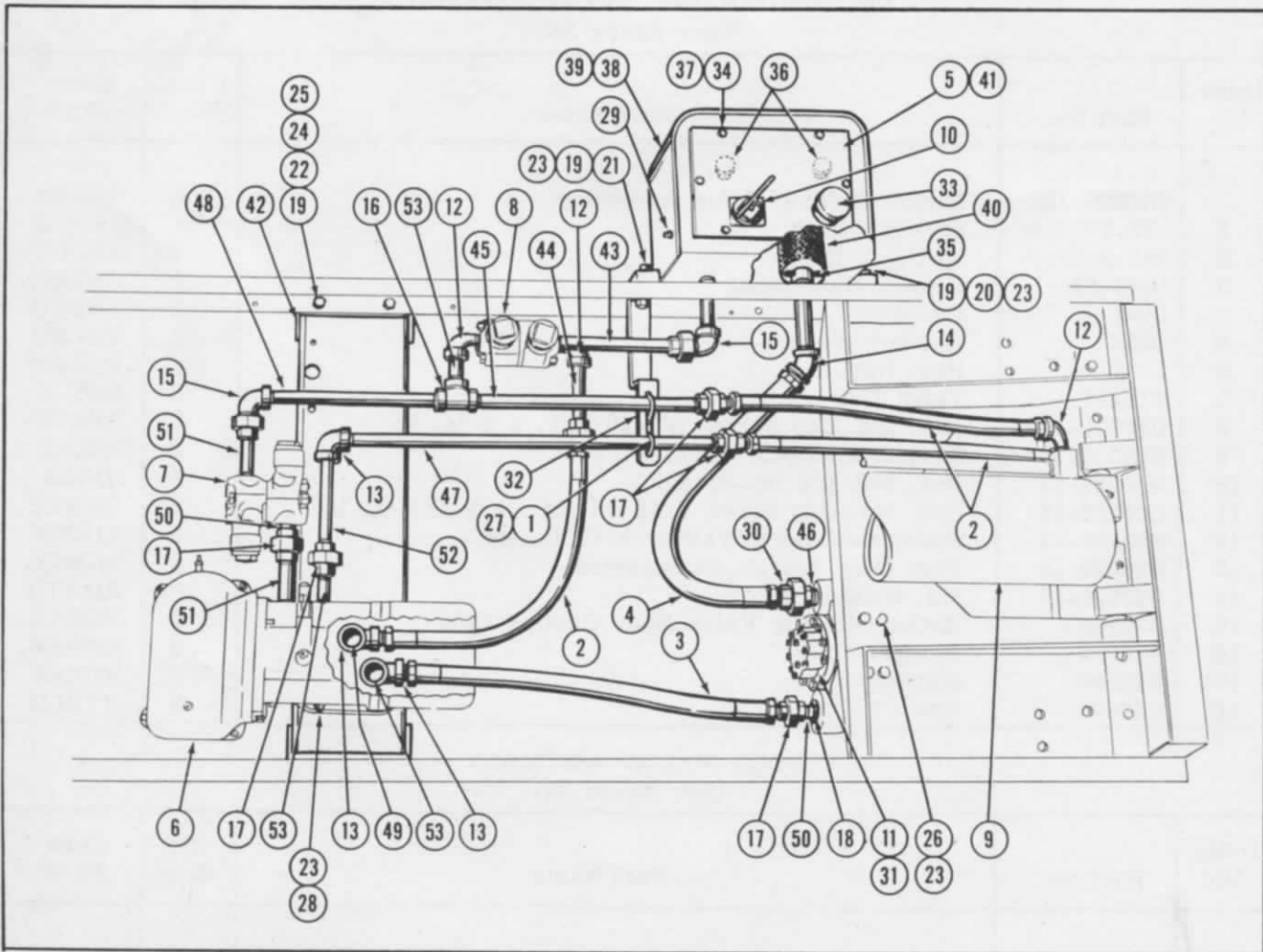


Figure 28 - Piping and Tank Assembly

Parts Catalog

PIPING AND TANK ASSEMBLY
(See figure 28)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	540	U-Bolt	2	RWVAV
2	1142-4	Flexible Tubing	3	RESOP
3	1142-6	Flexible Tubing	1	RUSAO
4	1142-7	Flexible Tubing	1	RTITH
5	1203	Gasket	1	UCUDA
6	B19516-104	Main Operating Valve Assembly (See Figure 30)	1	ABART
7	B20022-101	Bucket Holding Valve Assembly (See Figure 26)	1	RCOTR
8	B20023-101	Foot Valve Assembly (See Figure 27)	1	UFABL
9	B20042-101	Operating Cylinder Assembly (See Figure 32)	1	HACAT
10	D20275	Oil Stick and Cap	1	UVRWA
11	B20663-101	Pump Assembly (See Figure 29)	1	KALMO
12	B20667-1	Street Elbow 3/4 in. x 90 degrees	4	RYFBH
13	B20667-2	Elbow 3/4 in. x 90 degrees	3	USARO
14	B20667-3	Elbow 1 in. x 45 degrees	1	ROTAR
15	B20667-4	Union Elbow 3/4 in.	2	ROERL
16	B20667-5	Tee 3/4 in.	1	RKUST
17	B20667-6	Railroad Union 3/4 in.	6	RSAMJ
18	B20667-10	Pipe Bushing 1 in. to 3/4 in.	1	RADOK
19	B20667-22	Hex. Half Nut 1/2 in.-13 N.C.	8	RWORN
20	B20667-23	Hex. Hd. Mach. Bolt 1/2-13 N.C. x 2 in. lg.	2	RHADE
21	B20667-24	Hex. Hd. Mach. Bolt 1/2-13 N.C. x 2-1/4 in. lg.	2	RSRIP
22	B20667-25	Hex. Hd. Cap Screw 1/2-13 N.C. x 1 in. lg.	4	RUAPE
23	B20667-26	Lock Washer 1/2 in.	14	RTUTL
24	B20667-27	Shakeproof Lock Washer 1/2 in.	4	REAPS
25	B20667-28	Washer 1/2 in. S.A.E. Reg.	4	RPASL
26	B20667-29	Hex. Hd. Cap Screw 1/2-13 N.C. x 5 in. lg.	4	ROLBC
27	B20667-31	Hex. Nut 5/16 in.-18 N.C.	4	ROYAL
28	B20667-32	Hex. Hd. Cap Screw 1/2-13 N.C. x 1-3/4 in. lg.	6	RKOBS
29	B20667-33	Pipe Plug 1/4 in.	1	RSRED
30	B20667-35	Railroad Union 1 in.	1	ROTUL
31	D20714	Pump Bracket	1	ROJOK
32	C20734	Pipe Support	1	ROPER
33	D20948	Vent Pipe Cap	1	RGKLO
34	B21046-7	Hex. Hd. Cap Screw 5/16-18 N.C. x 3/4 in. lg.	6	ROBTA
35	B21046-8	Cotter Pin 3/16 x 2-1/2 in. lg.	1	REKMP
36	B21046-9	Pipe Plug 1 in.	2	RATHL
37	B21046-10	Lock Washer 5/16 in. S.A.E. Reg.	6	ROLCA
38	B21046-101	Oil Tank Assembly Complete	1	RABFG
39	B21047	Oil Tank Welded Assembly	1	RAKBL
40	B21050	Oil Filter	1	REOLT
41	B21064	Oil Tank Cover	1	RKUGL
42	B21091	Valve Support Plate	1	RBUCY
43	D21276	Pipe Nipple 3/4 x 9 in. lg.	1	RABIT
44	D21277	Pipe Nipple 3/4 x 5 in. lg.	1	RABOK
45	D21297	Pipe Nipple 3/4 x 17 in. lg.	1	RABEL
46	D21298	Close Nipple 1 in.	1	RBYTB
47	D21299	Pipe Nipple 3/4 x 27-1/2 in. lg.	1	RACER
48	D21300	Pipe Nipple 3/4 x 13-1/4 in. lg.	1	RFMCK
49	D21301	Pipe Nipple 3/4 x 3-3/4 in. lg.	1	READT
50	D21302	Close Nipple 3/4 in.	2	RVUMA
51	D21303	Pipe Nipple 3/4 x 3-1/2 in. lg.	2	RYKTB
52	D21304	Pipe Nipple 3/4 x 7 in. lg.	1	RADAK
53	D21305	Pipe Nipple 3/4 x 2-1/2 in. lg.	2	RYETU

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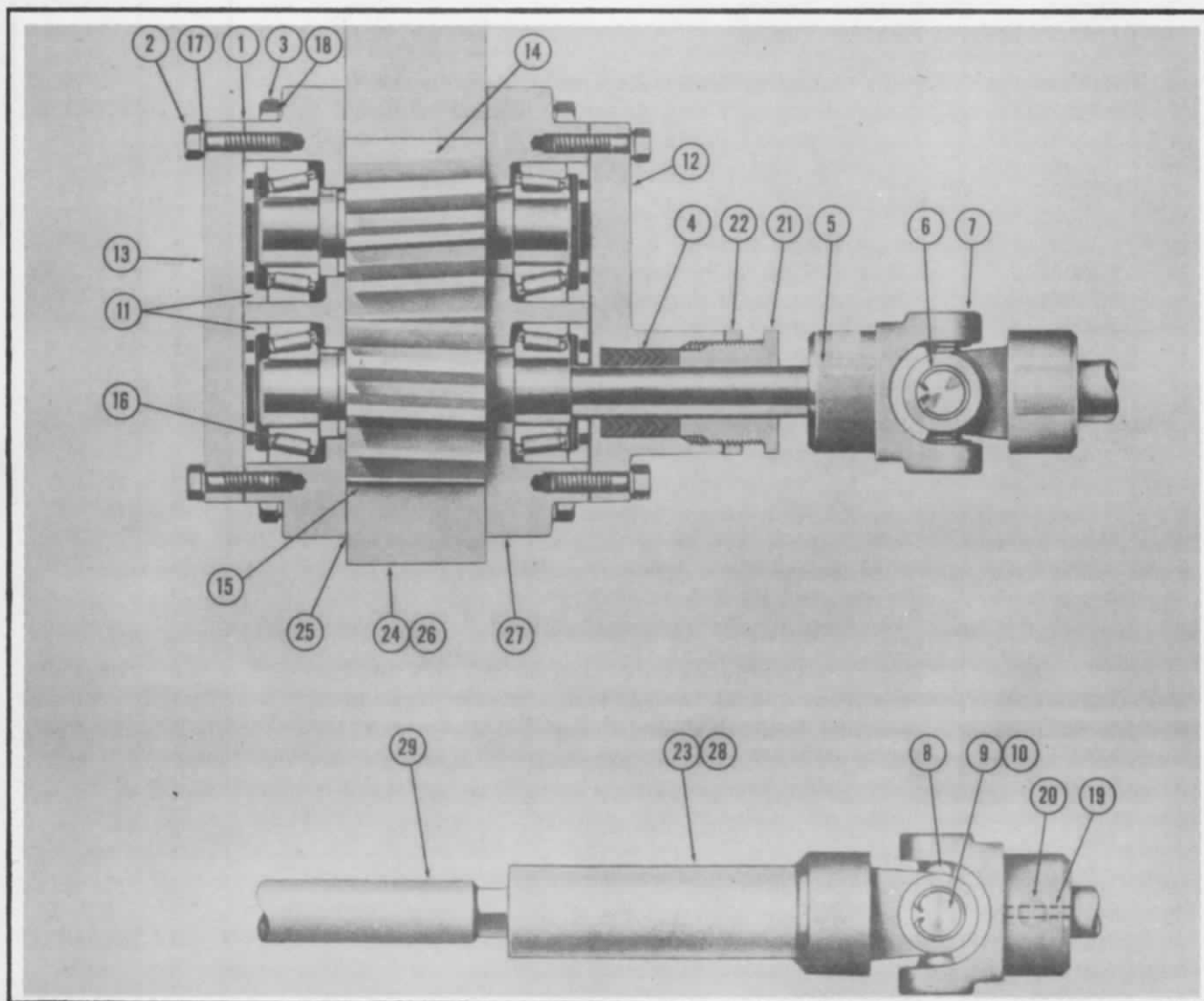


Figure 29 - Pump and Drive Shaft Assembly

Parts Catalog

PUMP AND DRIVE SHAFT ASSEMBLY

(See figure 29)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	1013	Gasket	2	KMVJU
2	1106	Cap Screw	24	KMACL
3	1113	Cap Screw	24	KMACU
4	1157	Packing for Hydraulic Pump	1	KMVSY
5	1218	Straight Key	1	KMADA
6	1319	Bearing Snap Ring	8	KCGUS
7	1320	Yoke Forging for Either Joint	3	KBARL
8	1321	Center Cross with Grease Seals Only	2	KCLON
9	1322	Bearing Assembly Only	8	KARST
10	1323	Grease Seal Only	8	KBUTL
11	E19196	Lock Nut - Not replaceable in the field	*	
12	D19197-C	Small Cover - Front	1	KMDMU
13	D19197-D	Small Cover - Rear	1	KMDSP
14	B19641-1	Short Shaft Gear - Not replaceable in the field	*	
15	B19641-2	Long Shaft Gear - Not replaceable in the field	*	
16	B20005-1	Pump Bearing - Not replaceable in the field	*	
17	B20005-2	Lock Washer 5/16 in.	24	KNECS
18	B20005-3	Lock Washer 3/8 in.	24	KNIKS
19	B20026-1	Woodruff Key No. 15	1	KRABT
20	B20026-2	Allen Hd. Set Screw 3/8-16 N.C. x 1/2 in. lg.	2	KREFT
21	E20338	Packing Gland Nut	1	KMUTE
22	E20339	Lock Nut	1	KMDUK
23	D20556	Universal Joint and Sleeve Complete	1	KJROA
24	B20663-101	Pump Assembly	1	KALMO
25	C20797	Gasket - Not replaceable in the field	*	
26	B20977	Pump Body - Not replaceable in the field	*	
27	C20999	Large Cover - Not replaceable in the field	*	
28	D21044	Yoke and Sleeve Welded Assembly	1	KASTU
29	B21314	Drive Shaft Assembly	1	KACAT
		Power Take-Off (Supply Make, Model and Serial No. of Truck.)	1	KABFA

MAIN OPERATING VALVE ASSEMBLY

(See figure 30)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
	B19516-104	Main Operating Valve Assembly	1	ABART
1	190	Knockout spring	1	ATASO
2	191-3	Reversing Spring	1	ABFIR
3	193	Spring	1	AHDKR
4	196	Spring	1	ARTVT
5	977-3	Washer	6	AJOPD
6	978	Washer	1	ABOTL
7	990	Valve Gasket	1	AJOTV
8	991	Gasket	1	AKLJP
9	1006-8	Copper Ring Gasket	1	AKLHJ
10	1006-9	Copper Ring Gasket	2	ATAKL
11	1121-3	Cap Screw	4	AHDKM
12	1122-3	Cap Screw	4	AGLCO
13	1147-4	Shim	1	ATADO
14	1147-5	Shim	2	ARSLO
15	1159-2	Packing	2	ATATH
16	1159-3	Packing	2	ASRTK
17	1169	Stud	2	AKLED

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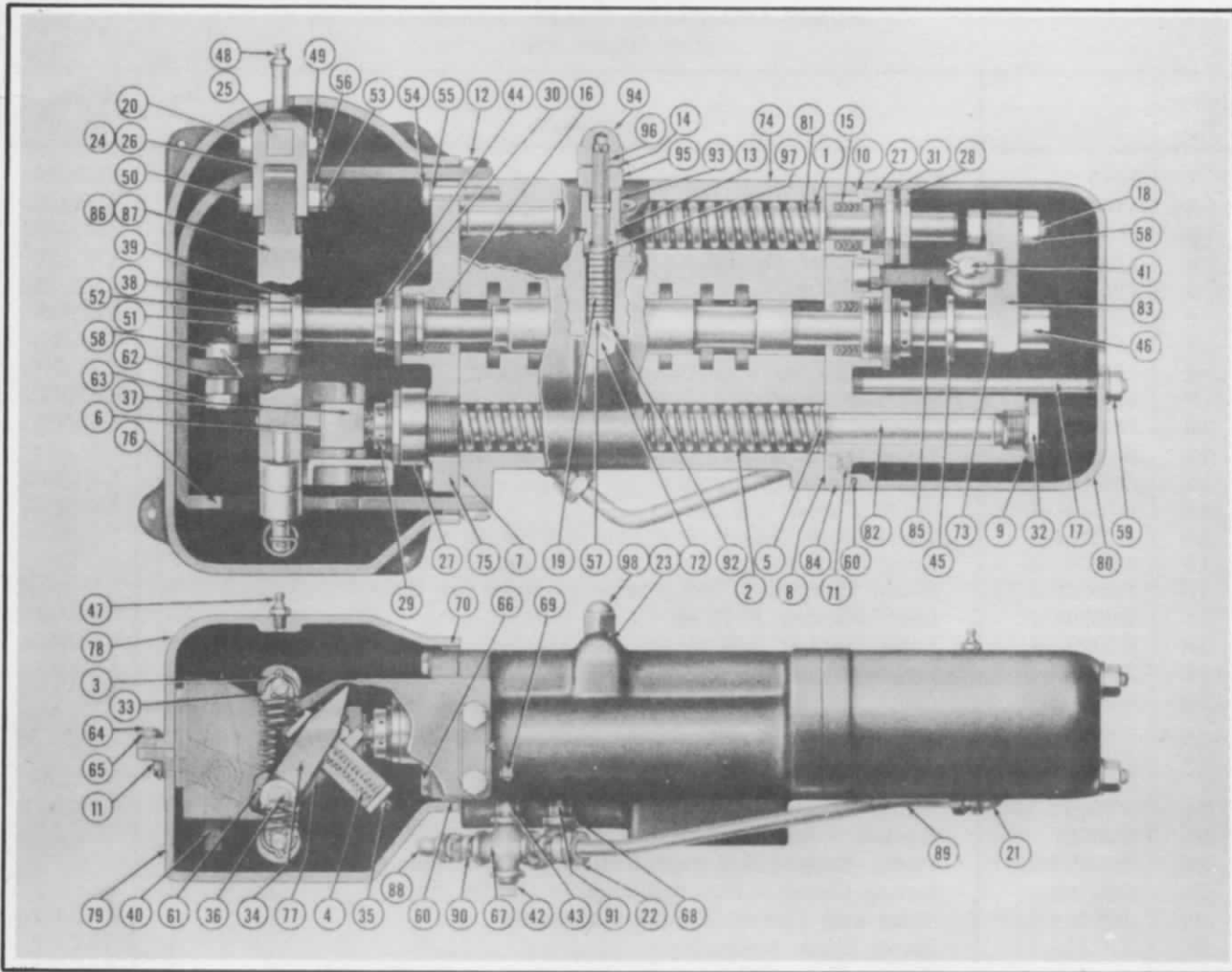


Figure 30 - Main Operating Valve Assembly

MAIN OPERATING VALVE ASSEMBLY (Continued)
(See figure 30)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
18	1180	Hex. Hd. Bolt	1	ASTAR
19	1212	Spring	1	ASOTL
20	1224	Bolt	2	ABUCL
21	1308	Elbow	1	ATMPR
22	1309	Straight Connector	2	ACOMR
23	1317	Gasket	1	AMPUT
24	E19277	Top Roller Arm Fork	1	ABLER
25	D19278	Shaft	1	AUCLA
26	D19279	Bottom Roller Arm Fork	1	AKOPR
27	E19300	Adaptor Nut	2	ATAME
28	E19302	Gland Nut	1	ATAWY
29	E19303	Gland Nut	1	AJOUA
30	E19304	Lock Nut	2	ASRUJ
31	E19305	Lock Nut	2	ATAOV
32	E19306	Screw Plug	1	AKLMK
33	E19309	Roller	4	AHDHJ
34	E19311	Finger	1	ARTKA
35	E19312	Spring Pin	1	ARTPR

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MAIN OPERATING VALVE ASSEMBLY (Continued)
(See figure 30)

Index No.	Part No.	Part Name	No. Req'd.	Code Word
36	F19313	Shaft	1	AHDPV
37	E19314	Pivot Block	1	ADHRU
38	E19315	Fork	1	AFTKO
39	E19316	Collar	1	AFTRT
40	E19317	Finger	1	ARTDA
41	E19320	Pin	1	ATAUT
42	E19362	Restricting Pin and Plug	1	AEHRT
43	E19363	Oil Jet	1	AEHEF
44	E19418	Gland Nut	2	AZUBL
45	E19482	Collar	1	ATMON
46	E19483	Nut	1	AKLAR
47	B19516-2	Zerk Fitting No. 1610	2	AFTAD
48	B19516-3	Zerk Fitting No. 1669	1	AKUTA
49	B19516-4	Castellated Nut 5/16 in.-24 N.F.	2	AKPRS
50	B19516-11	Cap Screw 3/8-24 N.F. x 1-3/4 in. lg.	2	ASROP
51	B19516-13	Hex. Nut 1/2 in.-20 N.F.	3	ASRAD
52	B19516-14	Lock Washer 1/2 in. S.A.E. Reg.	1	ALCSP
53	B19516-15	Cotter Pin 1/8 x 3/4 in. lg.	10	ALURC
54	B19516-16	Hex. Hd. Cap Screw 5/16-18 N.C. x 1-1/4 in. lg.	10	AWORK
55	B19516-17	Lock Washer 5/16 in. S.A.E. Reg.	17	ASREJ
56	B19516-18	Castellated Hex. Nut 3/8 in.-24 N.F.	2	ASREO
57	B19516-26	Steel Ball 1/2 in. diameter	1	AMEPR
58	B19516-39	Hex. Nut 3/8 in.-16 N.C.	2	AZLAR
59	B19516-50	Hex. Nut 5/16 in.-18 N.C. Reg.	2	ARTKA
60	B19516-52	Rubber (Dor-Tite) 5/32 x 3/8 x 14-1/2 in. lg.	1	ACLOP
61	B19516-63	Cotter Pin 3/16 x 1-1/2 in. lg.	1	ALCUM
62	B19516-66	Standard Washer 3/8 in.	1	AOSRT
63	B19516-67	Cap Screw 3/8-16 N.C. x 1-1/4 in. lg.	1	AHDSA
64	B19516-72	Rd. Hd. Stove Bolt 1/4 x 3/4 in. lg.	4	AHDUV
65	B19516-73	Lock Washer 1/4 in. S.A.E. Reg.	4	ALOC R
66	B19516-75	Hex. Hd. Cap Screw 5/16-18 N.C. x 1 in. lg.	3	AVUST
67	B19516-85	Pipe Cross 1/4 in. Brass	1	AEHTO
68	B19516-87	Elbow 1/4 in. x 90 degrees	1	AEHSU
69	B19516-91	Sq. Hd. Pipe Plug 1/8 in.	2	AJRAT
70	B19516-93	Rubber (Dor-Tite) 5/32 x 3/8 x 21-1/2 in. lg.	1	ARSBA
71	B19516-95	Socket Hd. Cap Screw 5/16-18 N.C. x 1 in. lg.	12	AEHKY
72	B19516-101	Socket Hd. Dog Point Set Screw 1/4-20 N.C. x 1 in. lg.	1	ACROM
73	B19516-111	Socket Hd. Set Screw 1/4-20 N.C. x 1/4 in. lg.	1	AHRUL
74	B19529	Valve Body Only	*	AOSLR
75	D19530	Cover	1	AWLCO
76	B19531	Valve Control Cam	1	ASRUT
77	D19532	Fork	1	ARTLO
78	B19593-1	Top Section Hood	1	AHDET
79	B19593-2	Lower Section Hood	1	ARTEH
80	B19593-3	Hood	1	ATATJ
81	D19639	Knock-Out Plunger	*	AWAPM
82	D19640	Reversing Plunger	*	AWRCL
83	D19675	Knock-Out Lever	1	AKLFA
84	D19678	Cover	*	ALORS
85	D19692	Support for Knock-Out Lever	1	ABATO
86	D19713	Bottom Roller Arm	1	AEHPY
87	D19714	Top Roller Arm	1	AFTSU
88	D20494	Tubing	1	AOTAR
89	D20495	Tubing	1	ARSDO
90	D20496	Check Valve	1	AORST

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MAIN OPERATING VALVE ASSEMBLY (Continued)
(See figure 30)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
91	E20628	Nipple	1	AVALR
92	E20728	Seat	1	ABOTR
93	E20729	Nut	1	ASPUC
94	E20730	Cap	1	ARPAL
95	E20731	Lock Nut	1	ALSTP
96	E20732	Adjusting Screw	1	ARUVL
97	E20733	Button	1	ADOLR
98	E20963	Acorn Nut	1	APRAS

*These parts are not supplied separately for replacement in the field. However, Valve Body B19529 may be purchased with Plungers D19639 and D19621; and Cover D19678 may be purchased with Plunger D19640.

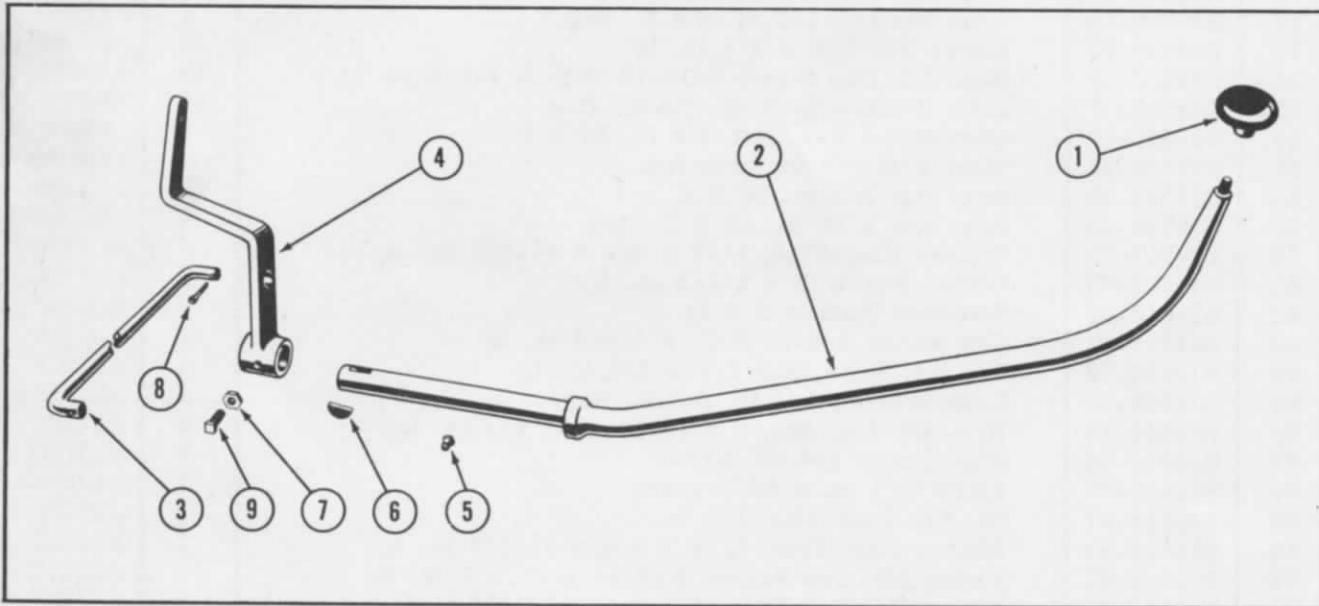


Figure 31 - Valve Operating Lever Assembly

VALVE OPERATING LEVER ASSEMBLY
(See figure 31)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	1152	Operating Lever Knob	1	SMOAY
2	D19748	Valve Operating Lever	1	LAVER
3	D19864	Valve Operating Rod	1	LATHO
4	D20567	Knock-Out Lever	1	LAMEK
5	B20657-1	Alemite Fitting No. 1610	1	LSWOT
6	B20657-2	Woodruff Key No. 15	1	LSWRA
7	B20657-3	Jam Nut 3/8 in.-16 N.C.	1	LSRPM
8	B20657-4	Cotter Pin 1/8 x 1 in. lg.	1	LAKET
9	B20657-5	Sq. Hd. Set Screw 3/8-16 N.C. x 3/4 in. lg.	1	LSWEN

Parts Catalog

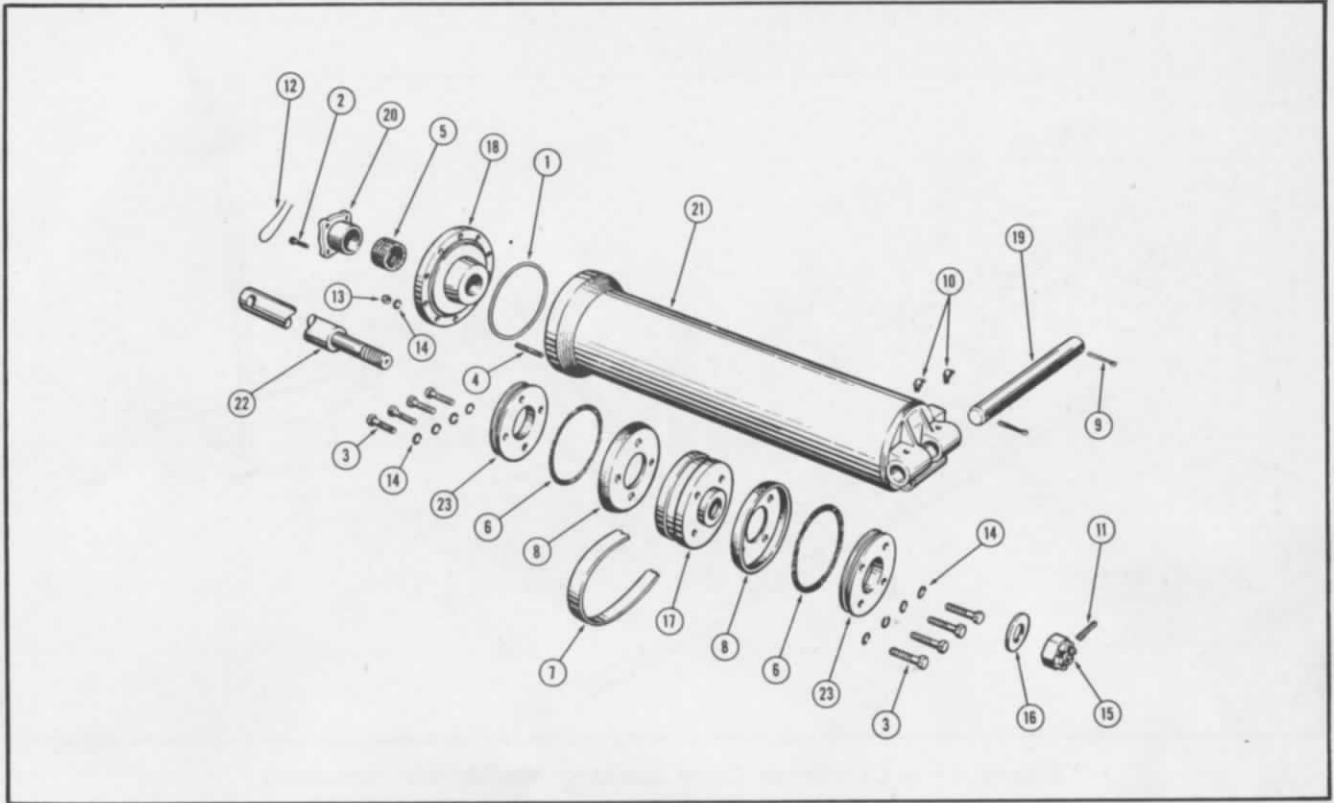


Figure 32 - Operating Cylinder Assembly

OPERATING CYLINDER ASSEMBLY
(See figure 32)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
	B20042-101	Cylinder Assembly Complete	1	HAKIL
1	1006-6	Gasket	1	HADUT
2	1122-7	Hex. Hd. Cap Screw	4	HADRT
3	1123-9	Hex. Hd. Cap Screw	8	HACLM
4	1151	Stud	10	HADYE
5	1159-7	Packing	1	HA FEC
6	1243	Spring	2	HALKE
7	1253	Leather Strip	1	HACOU
8	1258	Leather Cup	2	HALPU
9	B20033-1	Cotter Pin 1/4 x 2 in. lg.	2	HRUPY
10	B20042-1	Alemite Fitting No. 1612	2	HAGOR
11	B20042-2	Cotter Pin 3/16 x 2-1/2 in. lg.	1	HAPOR
12	B20042-4	Wire 1/16 x 10 in. lg.	1	HAGOR
13	B20042-5	Hex. Nut 1/2 in.-20 N.F.	10	HAHSO
14	B20042-6	Lock Washer 1/2 in. S.A.E.	18	HAHTU
15	B20042-21	Std. Castellated Nut 1-1/4 in.-12 N.F.	1	HADUR
16	B20042-24	Std. Washer 1-1/4 in. S.A.E. Reg.	1	HAMAL
17	D20199	Piston	1	HACRD
18	B20404	Cylinder Head	1	HAHIP
19	C20414	Pivot Pin	1	HAORD
20	D20415	Gland Nut	1	HARUS
21	B20545	Cylinder Only	1	HANE F
22	D20582	Piston Rod	1	HAPRE
23	D20632	Disc	2	HAOCL

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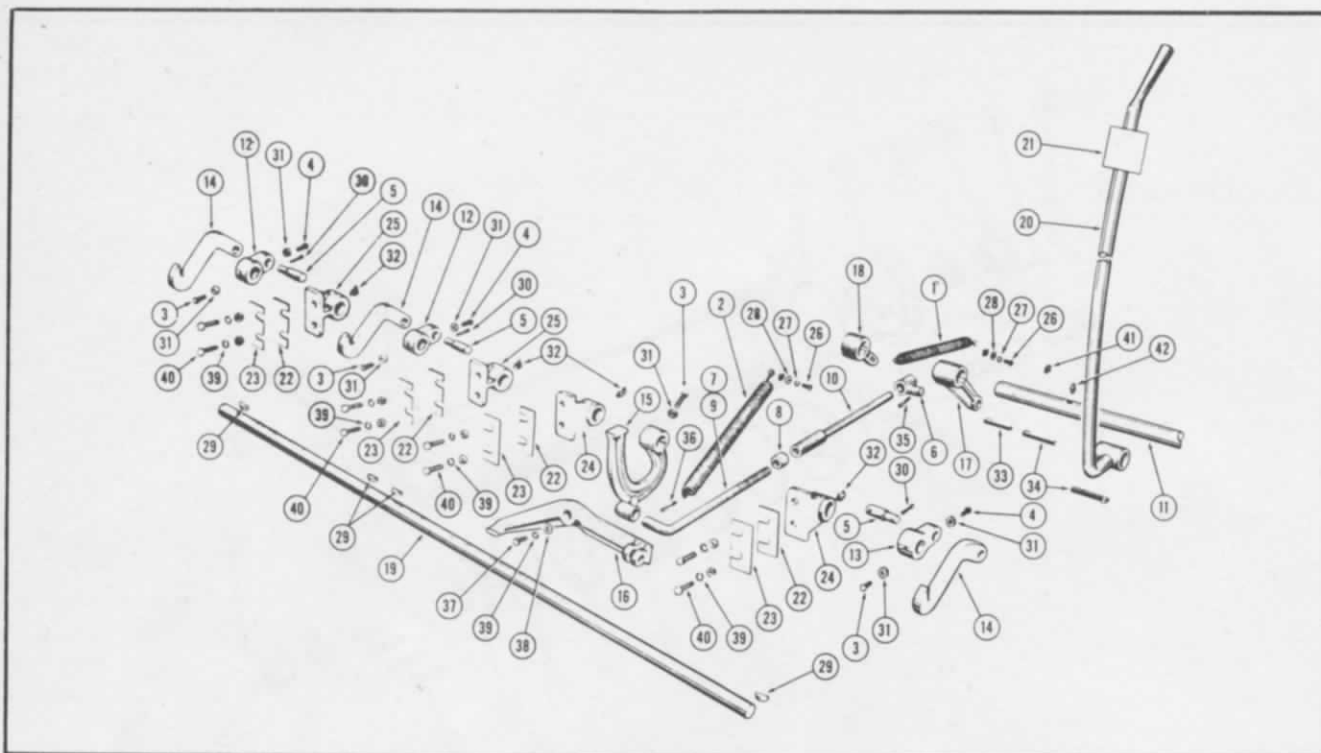


Figure 33 - Discharge Door Locking Mechanism Assembly

DISCHARGE DOOR LOCKING MECHANISM
(See figure 33)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	180-2	Spring	1	JKUTO
2	223	Spring	1	JKLEY
3	1174-1	Sq. Hd. Set Screw 3/8-16 N.C. x 7/8 in. lg.	4	JKRET
4	1174-3	Sq. Hd. Set Screw 3/8-16 N.C. x 3/4 in. lg.	3	JAPLE
5	E19350	Eccentric Pin	3	JAEAR
6	E19351	Locking Rod Slide	1	JKOTA
7	D19565-1	Locking Rod Extension	1	JAZEL
8	D19565-4	Locking Rod Nut	1	JARID
9	D19565-101	Discharge Door Locking Rod Assembly	1	JAFOG
10	D19565-102	Locking Rod and Coupling Assembly	1	JAGET
11	D19566	Door Locking Shaft	1	JKAYA
12	D19582-1	Lever	2	JAWSF
13	D19582-2	Lever	1	JASFA
14	D19583	Hook	3	JKTMH
15	D19584	Knockout Lever	1	JKTMO
16	D19585	Tripping Lever	1	JKTMY
17	D19589	Lever	1	JKTOA
18	D19590	Spring Lever	1	JKTOJ
19	D19687	Door Lock Operating Shaft	1	JKTSM
20	D19699	Operating Lever	1	JEFLT
21	E20499	Bumper	1	JKHEG
22	E20512-1	Shim No. 11 ga. x 1-3/4 x 3-5/8 in. lg.	4	JKUGH
23	E20512-2	Shim No. 22 ga. x 1-3/4 x 3-5/8 in. lg.	4	JKHTS
24	D20540	Locking Shaft Bearing R.H.	2	JKGSA
25	D20541	Locking Shaft Bearing L.H.	2	JKION
26	B20673-1	Rd. Hd. Stove Bolt 1/4-20 N.C. x 3/4 in. lg.	2	JOKER
27	B20673-2	Lock Washer 1/4 in. S.A.E. Reg.	2	JOHNS
28	B20673-3	Cut Washer 1/4 in.	2	JERKY

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Index No.	Part No.	Part Name	No. Reqd.	Code Word
29	B20673-4	Woodruff Key No. 15	4	JKATO
30	B20673-5	Cotter Pin 3/16 x 1-1/4 in. lg.	3	JKAFM
31	B20673-6	Hex. Jam Nut 3/8 in.-16 N.C.	7	JKSAT
32	B20673-7	Alemite Fitting No. 1612	4	JKAYT
33	B20673-8	Gib Key 5/16 x 5/16 x 2 in. lg. for D19590 Lever	1	JKAOM
34	B20673-9	Gib Key 5/16 x 5/16 x 2-1/2 in. lg. for D19589 and D19699 Levers	2	JKOAP
35	B20673-10	Cotter Pin 1/4 x 1-1/2 in. lg.	1	JKLAB
36	B20673-11	Cotter Pin 3/16 x 1-1/2 in. lg.	1	JKCPE
37	B20673-12	Hex. Hd. Cap Screw 3/8-16 N.C. x 3/4 in. lg.	1	JGTSR
38	B20673-13	Cut Washer 3/8 in.	1	JGPEP
39	B20673-14	Lock Washer 3/8 in. S.A.E. Reg.	9	JKFJA
40	B20673-15	Hex. Hd. Machine Bolt 3/8-24 N.F. x 1-1/4 in. lg.	8	JHOLT
41	B20673-16	Alemite Fitting No. 1610 for D19590 Lever	1	JKLUR
42	B20673-17	Alemite Fitting No. 1641 for D19699 Lever	1	JCOCT

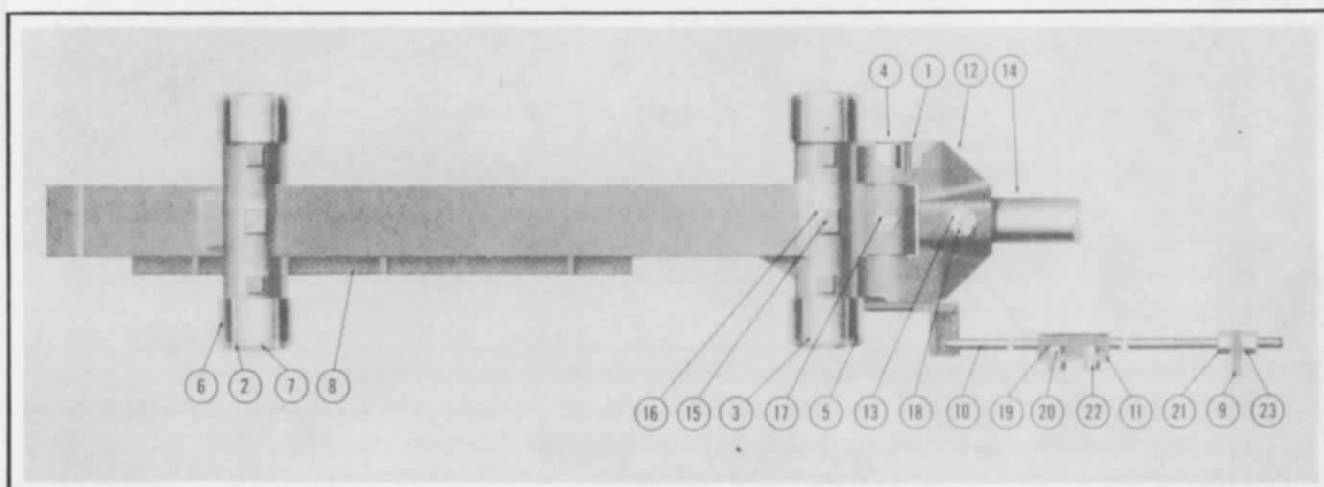


Figure 34 - Rack Gear Assembly

RACK GEAR ASSEMBLY
(See figure 34)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
	B20664-101	Rack Gear, Roller Shaft, Rollers and Bushings Assembly	1	ORSIT
	B20664-102	Rack Gear, Roller, Shaft, Rollers, Bushings and Tee Assembly	1	OTHER
1	250-1	Bushing	2	HADOV
2	250-2	Bushing	3	OMEAT
3	250-3	Bushing	1	OEILE
4	E19335	Hoist Tee Shaft	1	OMFRE
5	E19336-101	Rack Roller with Bushing	1	OMEPS
6	E19337-101	Rack Roller with Bushing	3	OMOPA
7	D19546	Rack Roller Shaft	2	OMPWE
8	B19604	Rack Gear Only	1	OMUEV
9	D19637	Bucket Stop	1	OMARF
10	D19638	Bucket Knockout Rod	1	OMAJO
11	D19724	Knockout Rod Bearing	1	OMATS
12	B20405-101	Hoist Tee with Bushing	1	OMSHL
13	E20533	Hoist Tee Pin	1	OMLAP
14	D20582	Piston Rod	1	HAPRE

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RACK GEAR ASSEMBLY (Continued)
(See figure 34)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
15	B20664-1	Socket Hd. Set Screw 1/2-13 N.C. x 3/4 in. lg.	2	OSIGH
16	B20664-2	Hex. Jam Nut 1/2 in.-13 N.C.	3	OMOJO
17	B20664-3	Sq. Hd. Set Screw 1/2-13 N.C. x 1-1/4 in. lg.	1	OMOSO
18	B20665-1	Cotter Pin 1/8 x 1-1/2 in. lg.	1	OMKAY
19	B20665-2	Hex. Hd. Machine Bolt 3/8-24 N.F. x 1 in. lg.	2	OMOLA
20	B20665-3	Lock Washer 3/8 in. S.A.E. Reg.	2	OMSHE
21	B20665-4	Hex. Nut 1/2 in.-13 N.C.	2	OMSRC
22	B20665-5	Hex. Nut 3/8 in.-24 N.F.	2	OMGOR
23	B20665-6	Lock Washer 1/2 in. S.A.E. Reg.	2	OMEAR

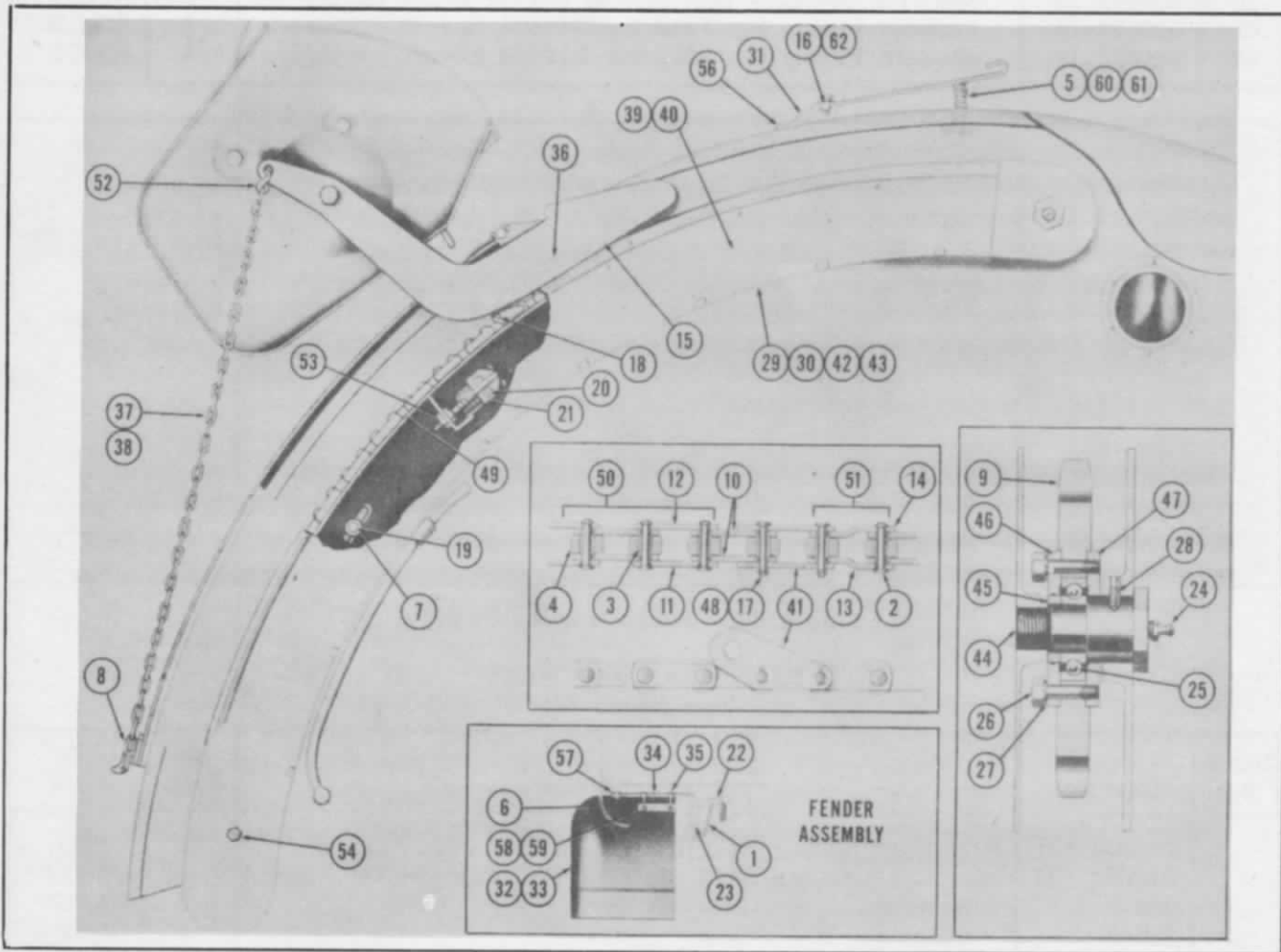


Figure 35 - Chain Track and Fender Assembly

CHAIN TRACK AND FENDER ASSEMBLY
(See figure 35)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	163	Spring	1	DFTAC
2	1139	Chain Rivet	164	OKEAL
3	1140	Chain Bushing	168	OUMCO

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Index No.	Part No.	Part Name	No. Reqd.	Code Word
4	1141	Chain Roller	168	ORUTS
5	1223	Spring	2	DKNOP
6	1250-1	Rubber Fender Bead	2	DKEMP
7	1326	Washer	10	DOANR
8	3212-3	Cold Shut	4	DADRE
9	D19051	Head Sprocket	2	TRSAM
10	D19146-1	Side Bar Only	168	OKRUT
11	D19146-2	Side Bar Only	82	OKRST
12	D19146-3	Side Bar Only	82	OKELD
13	D19146-9	Offset Side Bar Only	1	ORLAE
14	D19146-10	Offset Side Bar Only	1	OROTL
15	E19333	Upper Push Rod Pin	2	DFTKE
16	D19348	Tilting Hook Pin	2	DROPA
17	E19392	Connecting Link Pin	4	OABTL
18	E19393	Lower Push Rod Pin	2	DRASO
19	E19415	Carriage Bolt	8	DRCLE
20	E19416	Carriage Bolt	4	DROCE
21	D19419	Chain Adjuster	2	DSATK
22	E19456	Safety Latch	1	DSOME
23	E19457	Safety Lock Rod	1	DSORT
24	B19488-1	Zerk Fitting No. 1610	1	DKARF
25	B19488-2	Ball Bearing S.K.F. No. 6206	1	TDEAP
26	B19488-3	Hex. Hd. Cap Screw 5/16-24 N.F. x 1-1/4 in. lg.	4	DKRUS
27	B19488-4	Lock Washer 5/16 in.	4	DLTIS
28	B19488-5	Unbrako Socket Hd. Set Screw 3/8 x 1/2 in. lg.	1	DLWAS
29	B19488-101	L.H. Chain Track and Head Sprocket Assembly less Chain Tighteners and Bolts	1	DAFRS
30	B19489-101	R.H. Chain Track and Head Sprocket Assembly less Chain Tighteners and Bolts	1	DAFAE
31	D19572	Tilting Hook Hinge	2	DROJD
32	B19644-101	Fender R.H.	1	DAMFT
33	B19644-102	Fender L.H.	1	DAMSO
34	D19645	Fender Support Rod	4	DSAVD
35	D19646	Eye Bolt	8	DKLAT
36	D19718	Push Rod	2	DAMJU
37	D19732-101	Door Opening Chain Assembly L.H.	1	DAMUD
38	D19732-102	Door Opening Chain Assembly R.H.	1	DAORT
39	D19738	Chain Track Cover R.H.	1	DAOPC
40	D19739	Chain Track Cover L.H.	1	DAOTK
41	D19740	Connecting Link Side Bar	4	OAODR
42	B19741-101	Roller Chain Track Only R.H.	1	DAMLP
43	B19742-101	Roller Chain Track Only L.H.	1	DAMPE
44	E19895	Head Sprocket Pin	2	TRYLW
45	E19896	Bearing Spacer	2	TALKO
46	E19897	Outside Bearing Cover	2	TRYDR
47	E19898	Inside Bearing Cover	2	TRYHS
48	D20018-7	Cotter Pin 1/8 x 3/4 in. lg.	4	DULEM
49	D20018-101	Roller Chain Assembly	2	DLTRU
50	D20048-101	Chain Link Assembly	82	OLAME
51	D20049-101	Offset Link Assembly	2	OERCU
52	E21096	Chain Hook Only	2	DOPUS
53	B20650-1	Hex. Nut 5/8 in.-11 N.C.	4	DROHW
54	B20650-2	Hex. Hd. Machine Bolt 1/2-20 N.F. x 1-1/4 in. lg.	2	DRYOM
55	B20650-3	Hex. Nut 3/8 in.-16 N.C.	10	DAPRE
56	B20650-6	Carriage Bolt 1/2-13 N.C. x 1-1/4 in. lg.	6	DHIPR
57	B20650-9	Hex. Nut 3/4 in.-10 N.F.	8	DHOTE
58	B20650-10	Hex. Nut 1/2 in.-13 N.C.	44	DILDO

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CHAIN TRACK AND FENDER ASSEMBLY (Continued)
(See figure 35)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
59	B20650-11	Lock Washer 1/2 in. S.A.E. Reg.	44	DLVON
60	B20650-15	Cotter Pin 1/4 x 1-1/2 in. lg.	2	DITLE
61	B20650-16	Plain Washer 3/4 in.	2	DAFRE
62	B20650-18	Cotter Pin 3/16 x 1 in. lg.	4	DLAPS

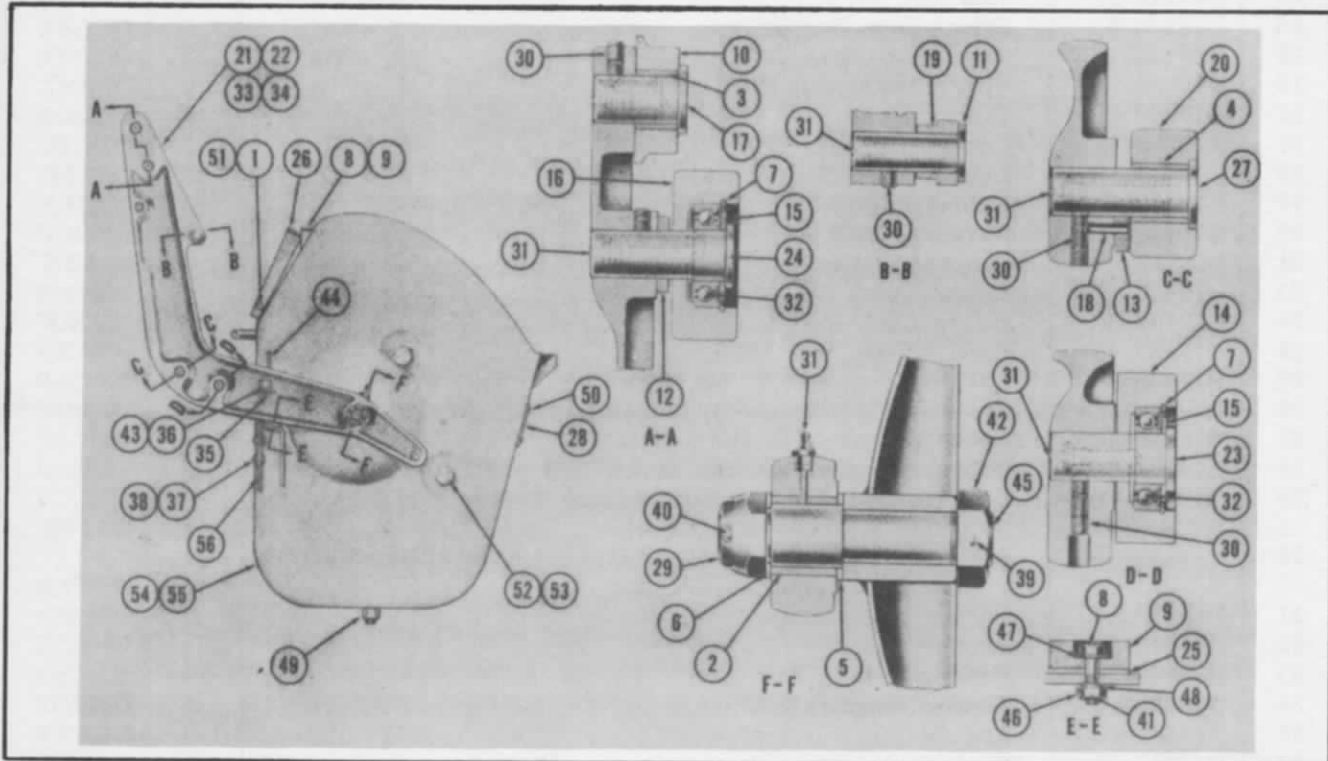


Figure 36 - Loading Bucket and Arms Assembly

LOADING BUCKET AND ARMS ASSEMBLY
(See figure 36)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	110-6	Drilled Rivet	2	MACES
2	248	Bushing	2	MUHDS
3	253-1	Bushing	2	MUHDT
4	253-2	Bushing	2	MUHDU
5	977-1	Washer	2	MUHDY
6	984	Washer	2	MUHOP
7	1202-1	Snap Ring	4	MUMIB
8	1213	Cap Screw	4	MUMEC
9	12150-2	Rubber Bumper Block	4	MUHET
10	E19326-101	Roller with Bushing 253-1	2	MUHUY
11	E19328	Roller Pin	2	MUHUE
12	E19332	Roller Spacer	2	MUHUL
13	E19451	Roller Spacer	2	MULEB
14	E19467	Roller	2	MULEM

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Index No.	Part No.	Part Name	No. Reqd.	Code Word
15	E19469	Bearing Washer	4	MUJIK
16	E19471	Bucket Arm Roller	2	MULAF
17	E19478	Roller Pin	2	MULDA
18	B19528-8	Dowel Pin	4	MUSEF
19	E19715	Roller	2	MABET
20	E19716	Roller	2	MABOY
21	B19735-102	R.H. Carriage Arm with 248 Bushing Only	1	MABIL
22	B19736-102	L.H. Carriage Arm with 248 Bushing Only	1	MACEV
23	E20320	Roller Pin	2	MUSOK
24	E20321	Roller Pin	2	MUSTI
25	E20452	Shim for Rubber Pad	2	MUSOA
26	E20565	Bucket Bumper Guard	2	MACAL
27	E20573	Roller Pin	2	MUSOP
28	E20575	Bucket Capacity Plate	1	MACRO
29	E20586	Bucket Pivot Pin Nut	2	MUSIF
30	B20652-1	Socket Hd. Set Screw 3/8-16 N.C. x 1/2 in. lg.	18	MUHUO
31	B20652-2	Alemite Fitting No. 1610	10	MUSAR
32	B20652-3	Bearing M.R.C. 206SF	4	MUSIC
33	B20652-101	Bucket Arm Assembly Complete L.H.	1	MERAY
34	B20653-101	Bucket Arm Assembly Complete R.H.	1	MESTE
35	B20672-1	Cotter Pin 1/8 x 1-1/4 in. lg.	2	MUNAB
36	B20672-2	Castellated Nut 5/8 in.-18 N.F.	2	MUNAW
37	B20672-3	Hex. Hd. Machine Bolt 3/8-24 N.F. x 1 in. lg.	4	MUNRO
38	B20672-4	Lock Washer 3/8 in. S.A.E. Reg.	4	MUKAS
39	B20672-5	Cotter Pin 1/8 x 2 in. lg.	2	MUTHA
40	B20672-6	Cotter Pin 3/16 x 2-1/2 in. lg.	2	MUNOT
41	B20672-7	Cotter Pin 1/16 x 3/4 in. lg.	4	MUSIN
42	E20726	Bucket Pivot Pin Locking Nut	2	MATLE
43	E21011	Bucket Holding Spring Pin	2	MEFOG
44	D21012	Bucket Holding Spring	2	MEGOS
45	E21018	Bucket Pivot Pin	2	MHOLE
46	B21156-10	Slotted Nut 5/16 in.-18 N.C.	4	MUNTA
47	B21156-11	Washer 5/16 in.	4	MUHUP
48	B21156-12	Lock Washer 5/16 in.	4	MUPKN
49	B21156-14	Pipe Plug 1 in.	1	MUHUS
50	B21156-15	Escutcheon Pin No. 11 x 3/8 in.	4	MUSOT
51	B21156-16	Cotter Pin 3/16 x 3/4 in. lg.	2	MUPLP
52	B21156-18	Hex. Hd. Cap Screw 7/8-14 N.F. x 1-3/4 in. lg.	4	MUTAD
53	B21156-19	Reg. Hex. Nut 7/8 in.-14 N.F.	4	MUVOT
54	B21156-101	Bucket Assembly	1	MRTLE
55	B21158	Bucket Welded Assembly	1	MROSE
56	D21308	Spring Pad	2	MTURO

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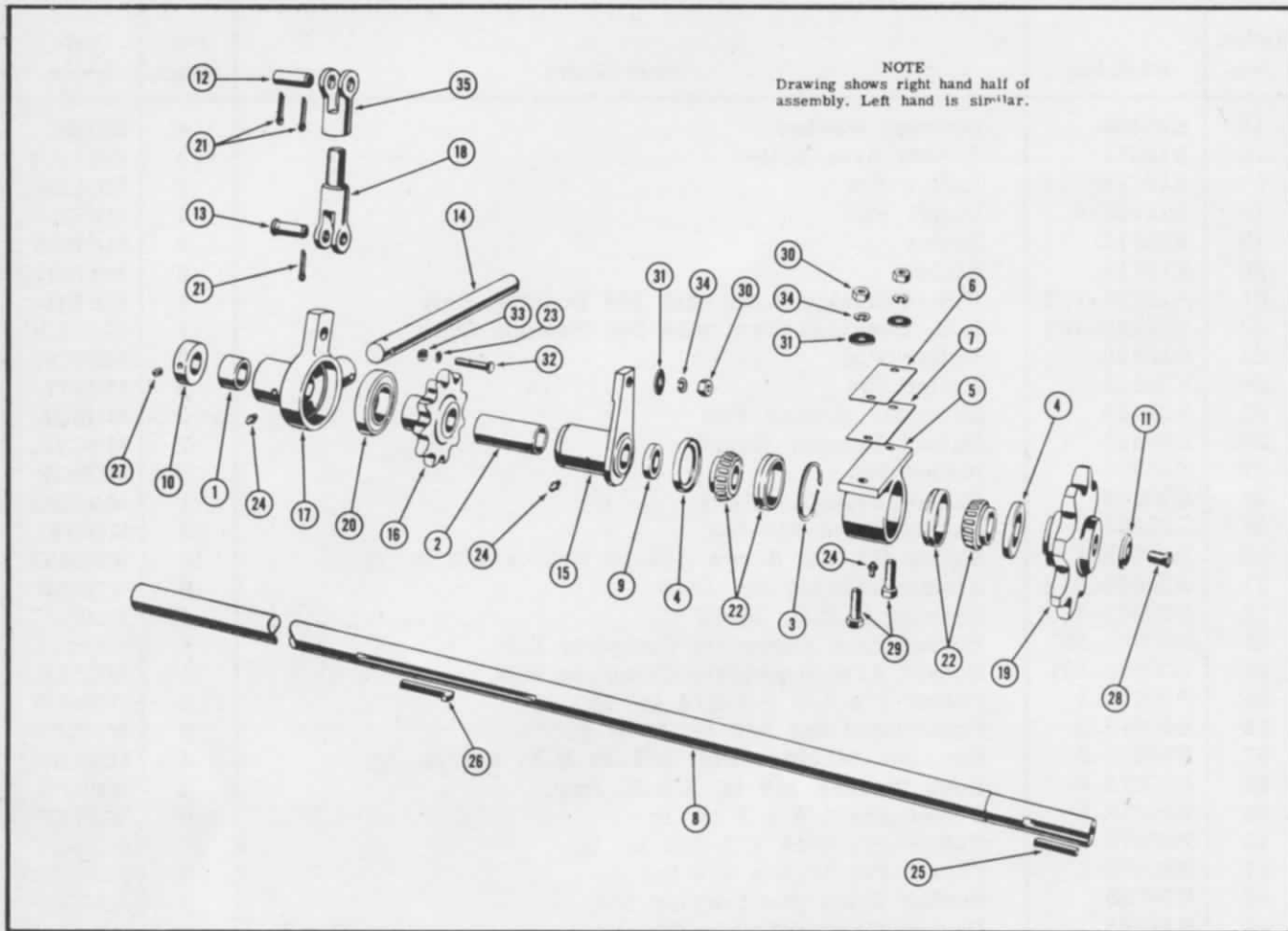


Figure 37 - Bucket Drive Shaft Assembly

BUCKET DRIVE SHAFT ASSEMBLY
(See figure 37)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	257	Bronze Bushing	1	TIAKR
2	260-2	Bronze Bushing	2	TIEDS
3	1145	Snap Ring	2	TRSLA
4	1307	Grease Seal	4	TDETS
5	D19062	Bearing Housing	2	TRSPR
6	D19062-3	Shim 1/16 in. thick	2	TRSRO
7	D19062-4	Shim 1/32 in. thick	2	TRLCU
8	D19063-1	Bucket Drive Shaft	1	TRYAY
9	D19063-2	Bearing Collar	2	TRYDM
10	D19063-4	Set Collar	1	TRYDO
11	D19063-7	Eccentric Washer	2	TRYDA
12	E19342	Rear Strut Pin	1	TOATE
13	E19455	Rear Strut Pin	1	TOAST
14	D19568	Strut	1	TKHAF
15	D19822-102	Body Pivot Pin with Bushing 260-2	2	TOFUS
16	D19863	Driving Sprocket	1	TOGOK
17	D19879	Bearing Housing	1	TSACK
18	D19880	Clevis with Stud	1	TSURE
19	D20208	Drive Sprocket	2	TSEAR
20	B20654-1	Bearing M.R.C. 209MFF	1	TRYMY

Parts Catalog

BUCKET DRIVE SHAFT ASSEMBLY (Continued)
(See figure 37)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
21	B20654-2	Cotter Pin 3/16 x 1-1/4 in. lg.	3	TUKLO
22	B20654-3	Timken Bearing No. 14120-14274	4	TDETA
23	B20654-4	Lock Washer 3/8 in. S.A.E.	1	TVEST
24	B20654-5	Alemite Fitting No. 1610	5	TLTWE
25	B20654-6	Straight Machine Key 3/8 x 3/8 x 2 in. lg.	2	TDEUM
26	B20654-7	Gib Key 3/8 x 3/8 x 2-3/4 in. lg.	1	TOTAM
27	B20654-8	Allen Hd. Set Screw 3/8-16 N.C. x 1/2 in. lg.	1	TOTDE
28	B20654-9	Flat Hd. Cap Screw 1/2-13 N.C. x 1 in. lg.	2	TOTKO
29	B20654-10	Hex. Hd. Machine Bolt 1/2-13 N.C. x 1-1/2 in. lg.	4	TEKEO
30	B20654-11	Hex. Nut 1/2 in.-13 N.C.	6	TELEG
31	B20654-12	Std. Washer 1/2 in.	6	TEMPO
32	B20654-13	Hex. Hd. Mach. Bolt 3/8-24 N.F. x 2 in. lg.	1	TOTHA
33	B20654-14	Hex. Lock Nut 3/8 in.-24 N.F.	1	TEREK
34	B20654-15	Lock Washer 1/2 in.	6	TOHLO
35	50158	Clevis	1	TKDWY

PINION HOUSING ASSEMBLY
(See figure 38)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
	B19812-101	Pinion Housing Assembly	1	EAKLW
1	224	Tension Spring	1	EADFO
2	251-3	Bushing	2	EABUS
3	1123-3	Hex. Hd. Cap Screw	4	EABIR
4	1185	Key for Pinion and Sprocket	4	EAJRH
5	1204-1	Snap Ring	1	EHORU
6	1206	Washer	8	EACVP
7	1209	Drive Chain	1	EKHIT
8	1220	Stud	7	ELA0B
9	1310	Cap Screw	1	ELROW
10	E19421	Adjusting Bolt	2	EOHIT
11	E19487-1	Shim No. 14 ga. (.075 in. thick)	2	EABOF
12	E19487-2	Shim No. 18 ga. (.048 in. thick)	2	EABEA
13	E19487-3	Shim No. 24 ga. (.024 in. thick)	2	EABST
14	D19568	Strut	1	EAPJE
15	D19578	Cam Shaft Operating Lever	1	SRUHL
16	B19627	Locking Dog	1	EAPOJ
17	D19650	Strut Bearing Housing	1	EATUL
18	D19654	Bearing Cover	1	EAPMD
19	B19662	Chain Guard	1	ELHOT
20	D19680	Cam Operating Rod	1	SRATR
21	D19686	Cam Operating Shaft	1	EAVUT
22	B19812-1	Hex. Jam Nut 5/8 in.-11 N.C.	2	EADES
23	B19812-2	Sq. Hd. Set Screw 5/8-11 N.C. x 1-1/2 in. lg.	2	EAEAR
24	B19812-3	Cotter Pin 3/16 x 3/4 in. lg.	2	EAETU
25	B19812-4	Unbrako Socket Hd. Set Screw 3/8-16 N.C. x 1/2 in. lg.	1	EAPOT
26	B19812-5	Woodruff Key No. 15	1	EAGLE
27	B19812-6	Headless Set Screw 1/4-20 N.C. x 1/4 in. lg.	4	EAFUS
28	B19812-7	Wire No. 18 ga. x 10 in. lg.	2	EAFDT
29	B19812-8	Gib Key 1/4 x 1/4 x 2-1/2 in. lg.	1	EAFMC
30	B19812-9	Alemite Fitting No. 1610	2	EAF TU
31	B19812-10	Bearing McGill Multirol FR 1-3/4	2	EAFHJ
32	B19812-11	Pipe Coupling 1/8 in.	2	EAFEU

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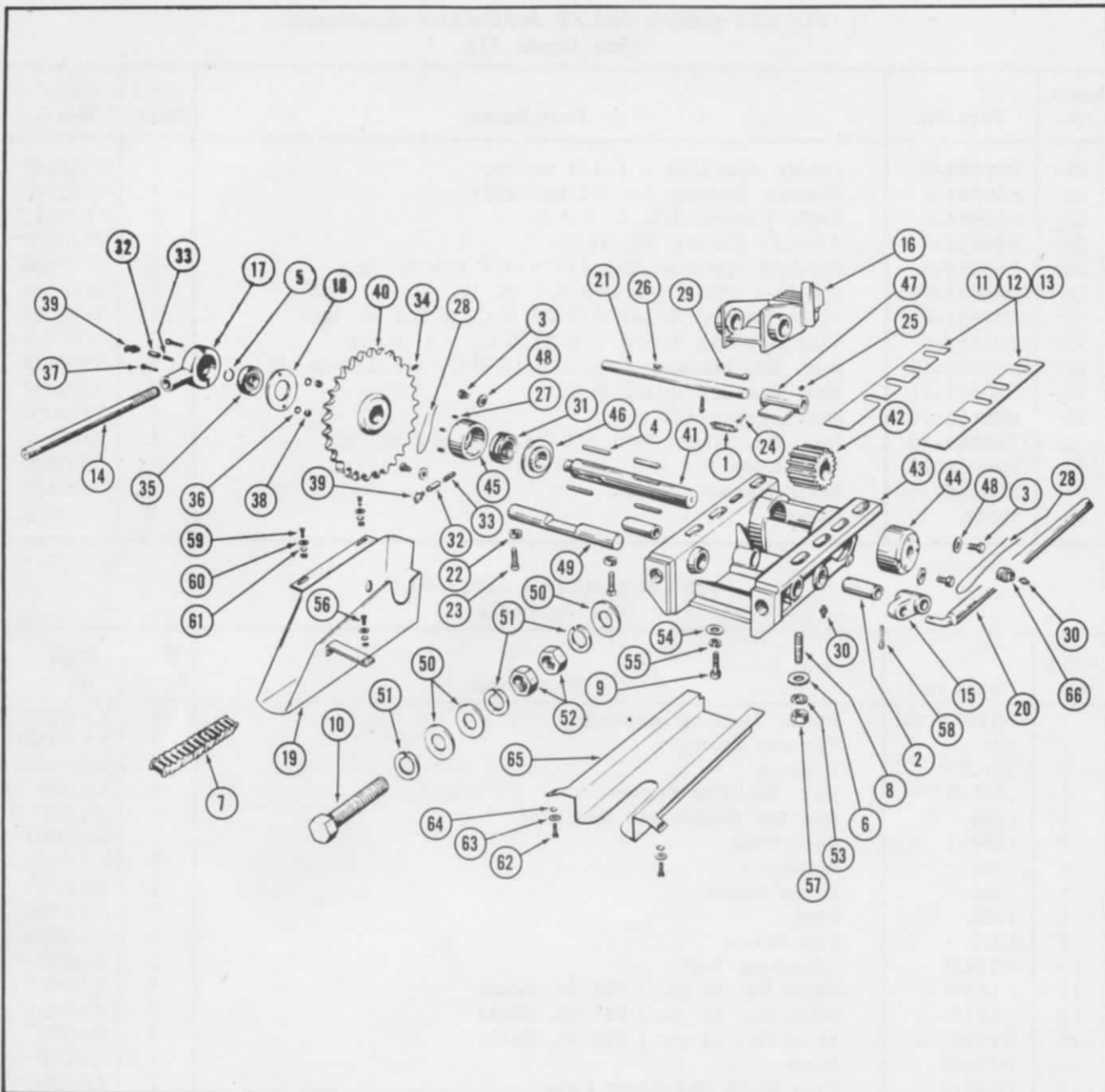


Figure 38 - Pinion Housing Assembly

PINION HOUSING ASSEMBLY (Continued)
(See figure 38)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
33	B19812-12	Close Nipple 1/8 in.	2	EAGRO
34	B19812-13	Socket Hd. Set Screw 3/8-16 N.C. x 5/8 in. lg.	1	EAGTS
35	B19812-14	Bearing S.K.F. 6306Z	1	EAFGT
36	B19812-15	Lock Washer 5/16 in.	2	EAMTU
37	B19812-16	Hex. Hd. Cap Screw 5/16-18 N.C. x 1-3/4 in. lg.	2	EAJDS
38	B19812-17	Hex. Nut 5/16 in.-18 N.C.	2	EAHSO
39	B19812-18	Alemite Fitting No. 1612	2	EAKEK

Parts Catalog

PINION HOUSING ASSEMBLY (Continued)
(See figure 38)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
40	D19862	Drive Sprocket	1	EAKOT
41	D19874	Pinion Shaft	1	EAKTO
42	D19875	Pinion	1	EALAB
43	B19878	Pinion Housing Welded Assembly Only	1	EALDU
44	D20227	Bearing Housing R.H.	1	EALEH
45	D20228	Bearing Housing L.H.	1	EALKJ
46	D20229	Collar	2	EALOF
47	D20237	Locking Cam	1	ESVAS
48	E20292	Locking Washer	4	ESUAE
49	D20614	Locking Dog Pivot Pin	1	ESTID
50	B20666-1	Washer 1-1/4 in.	4	EAVUM
51	B20666-2	Lock Washer 1-1/4 in. S.A.E. Reg.	4	EAULG
52	B20666-3	Hex. Nut 1-1/4 in.-12 N.F.	4	EABMT
53	B20666-4	Lock Washer 3/4 in. S.A.E. Reg.	7	EATAL
54	B20666-5	Washer 1/2 in.	1	ESRAW
55	B20666-6	Lock Washer 1/2 in. S.A.E. Reg.	1	EASOM
56	B20666-7	Stove Bolt 1/4 x 1 in. lg.	1	EOSAD
57	B20666-8	Hex. Nut 3/4 in.-16 N.F.	7	EADFO
58	B20666-9	Cotter Pin 3/16 x 1-1/4 in. lg.	1	ESLAY
59	B20666-10	Stove Bolt 1/4 x 3/4 in. lg.	2	ESAIID
60	B20666-11	Cut Washer 1/4 in.	8	EPEAT
61	B20666-12	Lock Washer 1/4 in. S.A.E. Reg.	4	EPKRS
62	B20666-13	Hex. Hd. Cap Screw 5/16-18 N.C. x 1 in. lg. for Rack Guard	2	EPHOT
63	B20666-14	Cut Washer 5/16 in. for Rack Guard	2	ELBAT
64	B20666-15	Lock Washer 5/16 in. S.A.E. Reg. for Rack Guard	2	EOBCL
65	B21216	Rack Guard	1	ELWAR
66	22083	Pipe Plug	1	ESKED

COMPACTOR

FOR

The Master Refuse - Getter



Figure S1 - REFUSE-GETTER With COMPACTOR

INTRODUCTION

This supplement to the REFUSE-GETTER includes additional information for the operation and maintenance of the COMPACTOR assembly. The COMPACTOR is a device for packing such refuse as wrapped garbage, rubbish, etc., within the body of the REFUSE-GETTER. The COMPACTOR is of little advantage in the case of wet, unwrapped garbage, or ashes.

By compressing refuse to the rear of the body with the COMPACTOR, larger loads can be hauled. It is recommended that the COMPACTOR be operated after each bucket load emptied into the body, in order to obtain the maximum compacting results. The COMPACTOR also is useful for speeding up discharge in dumping position. See figure S2.

OPERATION

1. OPERATING CONTROLS, Figure S3.

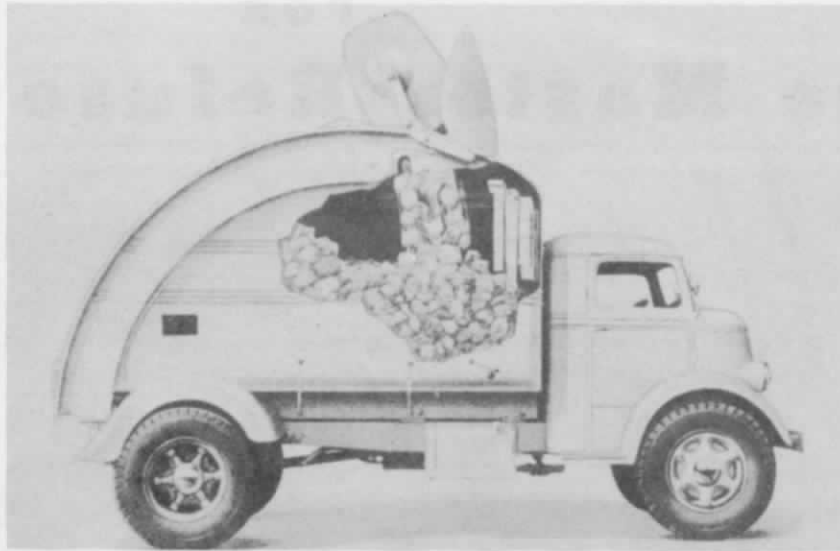
The COMPACTOR is operated with the regular Operating Valve Control Lever, which is the same lever used for controlling operation of the loading bucket. This is accomplished by the use of an auxiliary control valve which acts as a switch in the oil lines. Figure S3 shows all operating levers as arranged on the right-hand side of the REFUSE-GETTER. The COMPACTOR Auxiliary Control Lever con-

trols the switch valve so that flow of oil through hydraulic system can be directed to either bucket operating cylinder or COMPACTOR operating cylinder. When bucket or body is being operated, this lever is in the vertical (forward) position and the Operating Valve Control Lever is used in the usual way. The loading bucket may be in any desired position while, COMPACTOR is operated. Bucket or body cannot be operated while COMPACTOR is in motion.

MASTER COMPACTOR

LOADING

Refuse is automatically dumped into body through the loading door.



COMPACTING

Compactor compresses refuse so largest possible amount of material can be loaded.



DUMPING

When unloading, the compactor forces material out of the body.



Figure S2 - COMPACTOR Operation

OPERATION

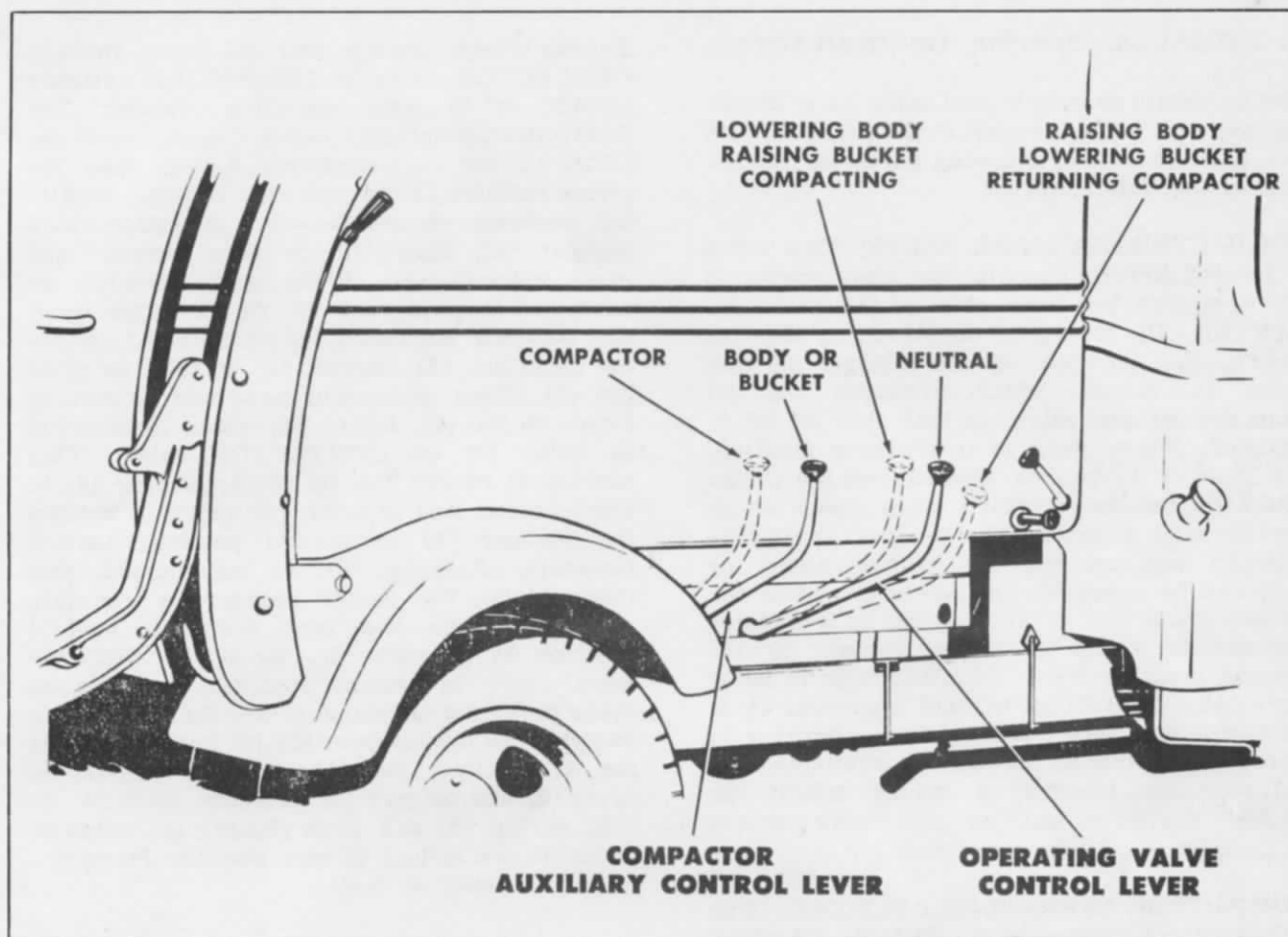


Figure S3 - Operating Control Lever Positions

2. TO OPERATE COMPACTOR, Figure S3.

First move the COMPACTOR Auxiliary Control Lever to left, toward rear of machine, as far as it will go, it will automatically lock in this position. Movement of this lever does not start the COMPACTOR operation; it merely switches the auxiliary valve so oil can flow to the COMPACTOR operating cylinder. Actual operation of the COMPACTOR is controlled by Operating Valve Control Lever. To start COMPACTOR, move this lever to left, toward rear of machine; when COMPACTOR reaches the limit of its travel, the Main Operating Valve will automatically reverse, moving Operating Valve Control Lever to extreme forward position. COMPACTOR will then return to original completely folded position at front of body. At this point automatic action of the Main Operating Valve will return Operating Valve Control Lever to neutral position, and Auxiliary Control Lever will return to forward position. If Operating Valve Control Lever is moved to neutral position at any time during COMPACTOR operation, COMPACTOR will stop; the lever must be

returned to right-hand (forward) position and the COMPACTOR allowed to stop automatically in order for controls to be arranged for bucket operation. Auxiliary Lever cannot be moved to forward position by hand operation; the controls are so designed that the COMPACTOR must be completely returned to position at front of body before bucket can be operated. This is to prevent dumping the bucket contents behind the COMPACTOR plate.

3. DUMPING BODY, Figure S3.

The COMPACTOR may also be used to aid in discharging the refuse load from the body if desired. The body is first elevated with discharge door opened, in the usual way; Auxiliary Control Lever is then shifted to COMPACTOR position, toward rear of body. Shift Operating Valve Control Lever toward rear to make COMPACTOR travel back and push load from body. COMPACTOR must be allowed to return to front of body and stop automatically so that Auxiliary Control Lever will return to forward position, in order to lower body.

MASTER COMPACTOR

4. HYDRAULIC SYSTEM OF COMPACTOR.

The hydraulic system is the same as a standard unit not equipped with COMPACTOR, with the addition of the following parts for operation of the COMPACTOR.

COMPACTOR AUXILIARY VALVE: This valve is located directly opposite the main operating valve on the left-hand side of the REFUSE-GETTER. By means of the Auxiliary Control Lever, the position of the plunger in this valve is varied, which arranges the oil passages in the valve so that flow of oil is changed. When lever is in the rear position, the plunger is pushed inward and the COMPACTOR can be operated; when lever is in the forward position, the plunger is in the outward position and the loading bucket or body can be operated. On the front end of the valve, inside the cover housing, is a latching mechanism which holds the plunger in the inward position while COMPACTOR is being operated. When COMPACTOR operation cycle is completed, this latch which is operated by a rod connected to the main operating valve, releases the plunger; a spring behind the plunger forces it out, so that valve returns to position for bucket operation.

COMPACTOR OPERATING CYLINDER: The cylinder is located inside the REFUSE-GETTER body, behind the COMPACTOR plate. It is a 6 inch diameter double-acting type with a stroke of 19-3/4 inches; the piston rod is 2 inch diameter heat-treated stainless steel. The cylinder piston is equipped with leather plunger cups.

5. CYCLE OF OPERATION.

Refer to oil flow diagrams, figures 12, 13, and 14, and accompanying text.

CONTROLS IN NEUTRAL POSITION: Oil flow is the same as explained under paragraph 3a, Neutral Position of Main Valve.

COMPACTING STROKE: Oil flow is the same as explained under paragraph 3c(1), Raising Bucket, except that oil flows through COMPACTOR valve to COMPACTOR cylinder instead of to regular operating cylinder. The oil pressure forces the COMPACTOR cylinder piston outward and operates the COMPACTOR. When the COMPACTOR reaches the limit of its travel, pressure builds up in the cylinder and reverses the valve in the same way that the bucket reverses.

COMPACTOR RETURN STROKE: Oil flow is the same as explained under paragraph 3b(1),

Raising Body, except that oil flows through COMPACTOR valve to COMPACTOR cylinder instead of to body operating cylinder. The COMPACTOR cylinder piston travels until the COMPACTOR is completely folded; then the piston bottoms in the cylinder and the resulting pressure causes the main operating valve plunger 'K', figure 13, to travel outward and move main plunger 'P' to neutral position as explained in paragraph 3a. At the same time, the outward movement of plunger 'K' causes the quadrant (4), figure S8, to turn on pivot pin (3). This movement produces a pushing action on rod (1), figure S4, which is attached to lever (2) on COMPACTOR valve. This movement causes the tip of the trigger (3) to snap behind end of latch (4) which is holding the plunger (5) in inward position against pressure of spring (6). At the moment this takes place, the center plunger in the main operating valve has been moved to neutral position by plunger 'K', figure 13. With the main valve in neutral position, there is no more pressure on plunger 'K', therefore it is returned to inward position by spring 'M'. At the same time, rod (1), figure S4, pulls on lever (2) and trigger (3) releases latch (4) so that spring (6) will push plunger (5) outward. Controls are then in proper position for operation of bucket or body.

BUCKET AND BODY OPERATION: Flow of oil is the same as it is for standard models except that oil flows through COMPACTOR valve before reaching cylinder.

6. ADJUSTMENTS.

ALL ADJUSTMENTS for operation of loading bucket or body are the same as on standard models. Additional adjustments for COMPACTOR operation are as follows:

COMPACTING PRESSURE: The efficiency of the COMPACTOR is dependent upon the oil pressure available for its operation. The oil pressure is controlled by the same setting of the main operating valve that controls the weight of load that can be lifted in the loading bucket. Maximum compacting pressure is obtained when the valve adjustment allows the maximum recommended load to be lifted in the bucket. Refer to Bucket Lifting Capacity under Adjustments on the standard model.

COMPACTOR REVERSING: Since reversing of the COMPACTOR is controlled by the same main valve operation as the bucket reversing, the adjustment is the same. Refer to Bucket Reversing on the standard model.

MAINTENANCE

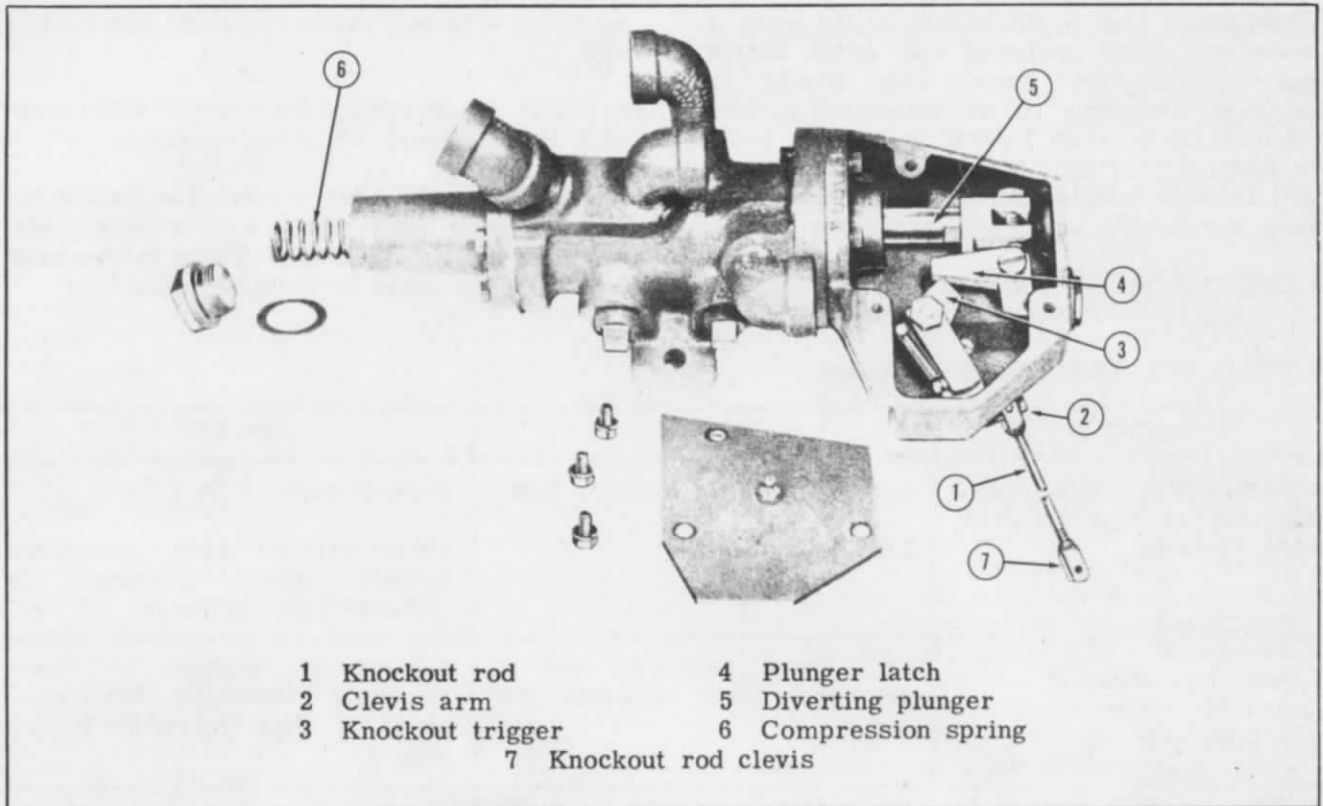


Figure S4 - COMPACTOR Valve Adjustments

COMPACTOR RETURN STOP:

a. Main Operating Valve: When the COMPACTOR reaches the completely folded position at the front of the REFUSE-GETTER, pressure building up in the cylinder operates the main valve knock-out mechanism. This is the same valve action that takes place when body reaches highest point of elevation. For adjustment see Body Lifting Capacity on standard model.

b. COMPACTOR Valve: As explained under COMPACTOR Return Stroke, paragraph 5, the COMPACTOR valve plunger is released from COMPACTOR operating position, to position for operating bucket, by operation of main valve mechanism. Adjustment of the COMPACTOR valve release mechanism is provided for by clevis on threaded end of rod (1), figure S4. If release action fails, it is probable that trigger (3) does not move far enough to grip latch (4). This can be remedied by removing clevis pin and turning clevis (7) two turns off rod to lengthen rod. If release action operates correctly, but plunger will not move outward, spring (6) is broken or too weak. To inspect spring, rear cover of valve must be removed. Failure of release may also be caused by springs on trigger and latch not operating properly.

COMPACTOR OPERATING CYLINDER: The packing nut should be inspected and tightened occasionally to prevent loss of oil.

7. COMPACTOR MAINTENANCE SCHEDULE, Figure S5.

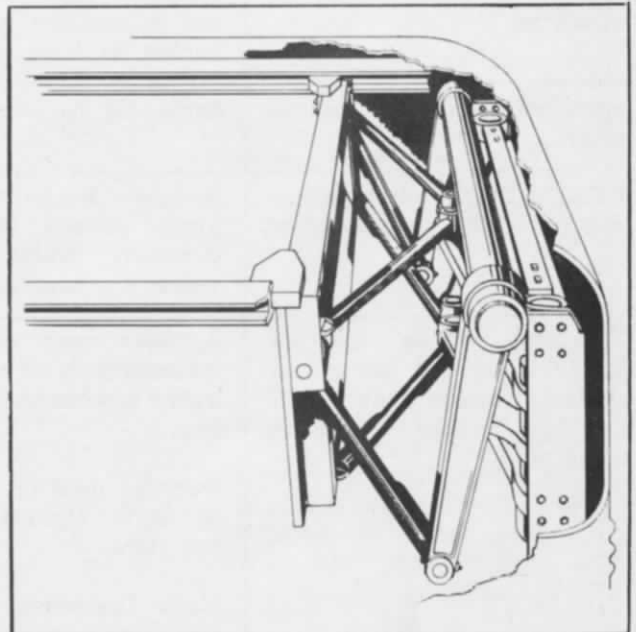


Figure S5 - COMPACTOR Maintenance Chart

MASTER COMPACTOR

CLEANING: Due to the nature of the work it performs, some material may lodge behind the COMPACTOR plate. This should be removed frequently so an accumulation does not build up in joints located at the pivot points in figure S5. If this is allowed to happen, it will cause a wedging action of extreme pressure which will eventually break the levers.

LUBRICATION: All COMPACTOR bearings are of the self-lubricating type and require no

attention. The only points requiring lubrication are:

a. Guide tracks should be greased each week with Mobil Grease No. 5 or equivalent.

b. COMPACTOR valve mechanism should be greased once each month with a good grade of No. 2 grease. A grease fitting is provided on top of the valve mechanism cover.

8. TROUBLE AND REMEDY CHART.

TROUBLE	CAUSE	REMEDY
COMPACTOR plate pressure too low; does not pack body contents.	Leather cups in cylinder leak. Leak in oil line.	Replace cups. Check all oil lines, especially flexible tubes connected to COMPACTOR Cylinder.
	Main valve reverses, due to pressure being adjusted too low.	Adjustment required in valve reversing mechanism. See paragraph 1, Main Operating Valve, page 12.
COMPACTOR will not operate.	COMPACTOR Auxiliary Valve not in position for operating COMPACTOR. Leather cups in cylinder leak. Leak in oil line.	Check plunger latching mechanism. See paragraph b, COMPACTOR Valve, page 3. Replace cups. Check all oil lines, especially flexible tubes connected to COMPACTOR Cylinder.
Bucket or body cannot be operated.	COMPACTOR Auxiliary Valve not in position for operation of bucket or body.	Check plunger release mechanism. See paragraph b, COMPACTOR Valve, page 3.
COMPACTOR will not reverse.	Same as bucket not reversing.	See page 20, 'Bucket Will Not Reverse'.
COMPACTOR stops before return stroke is completed	Refuse behind COMPACTOR plate causes increase in oil pressure, which operates main valve mechanism.	Remove material causing trouble.
Operating Valve Control Lever does not return to neutral position when COMPACTOR return stroke is completed.	Leather cups in cylinder leak, causing loss of oil pressure so valve mechanism does not operate. Packing nuts on center plunger in Main Operating Valve are too tight. Main Operating Valve mechanism not operating correctly.	Replace cups. Loosen slightly. Check valve mechanism. See paragraphs a and b, page 3.

COMPACTOR

TROUBLE	CAUSE	REMEDY
Auxiliary Valve Control Lever does not move to forward position when COMPACTOR return stroke is completed.	Auxiliary Valve release mechanism not operating correctly.	Check valve release mechanism. See paragraph b, COMPACTOR Valve, page 3.

PARTS CATALOG

HOW TO USE THIS PARTS LIST

1. The index numbers on the illustrations are keyed to the index numbers on the Parts Lists. Identify the part to be ordered on the proper illustration, then refer to the 'INDEX NO.' column of the related Parts List and thereby obtain the part number of the part identified.
2. Opposite the index number in the Parts Lists will be found (1) correct part number, (2) correct part name, (3) quantity required, and (4) code word which can be used in ordering the part by telegram.
3. The parts are listed in numerical order.

REFER TO IMPORTANT ORDERING INSTRUCTIONS IN PARTS SECTION OF THE REFUSE-GETTER MANUAL WHEN ORDERING PARTS.

Master Compactor Assembly

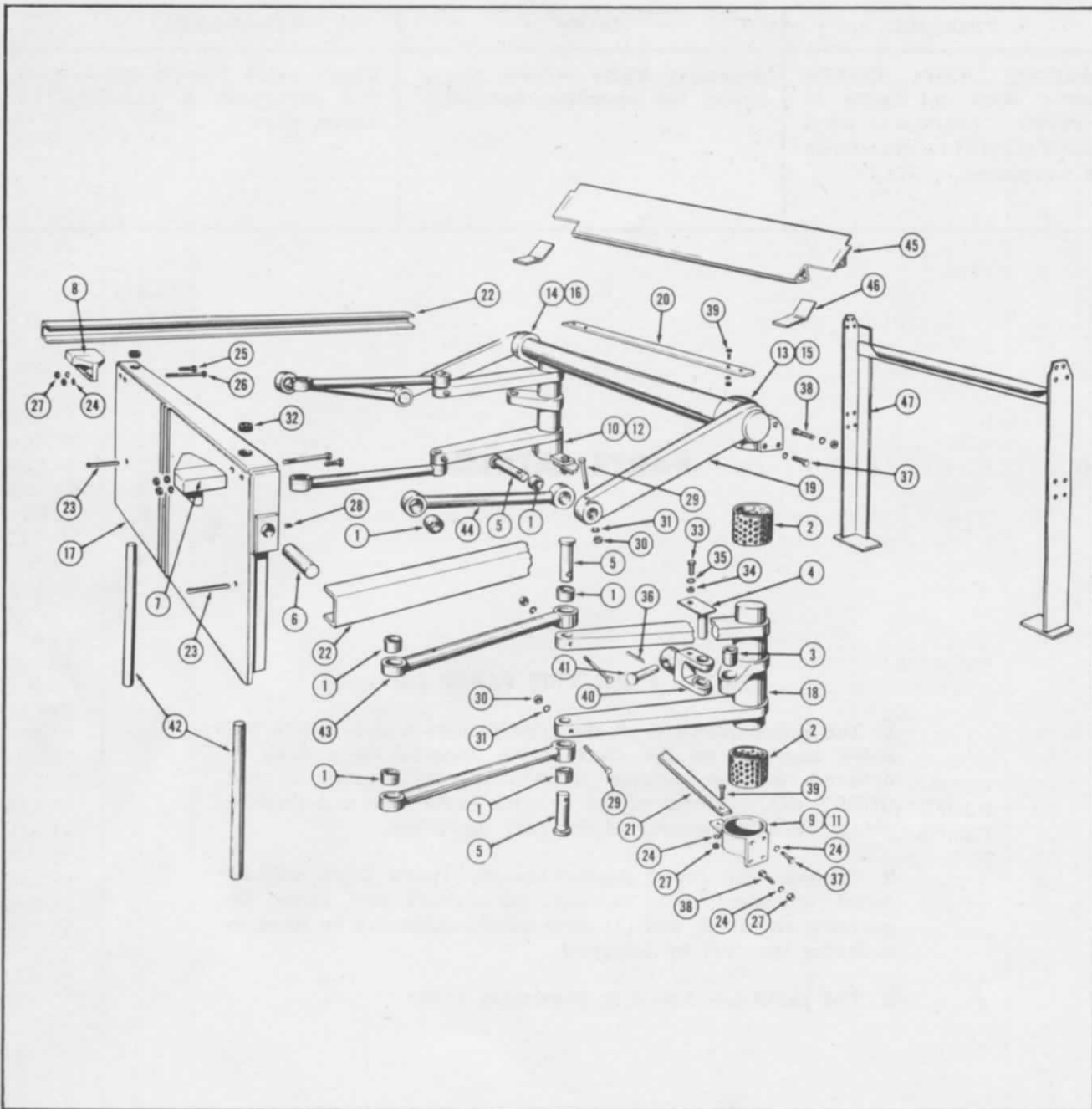


Figure S6 - Master Compactor Assembly

MASTER COMPACTOR ASSEMBLY (SEE FIGURE S6)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	256-1	Bushing for Connecting Links	12	YABIT
2	256-2	Bushing for Torque Shaft	6	YABRU
3	256-3	Bushing for Torque Shaft Lever	2	YABAR
4	E19405	Pin for Cylinder Yoke	2	YACIH
5	E19408	Pin for Connecting Links	6	YUKEG

Master Compactor

MASTER COMPACTOR ASSEMBLY (Continued)

(SEE FIGURE S6)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
6	E19409	Short Pin for Plate	2	YUATE
7	B19901-1	Sliding Shoe R.H.	1	YUBIT
8	B19901-2	Sliding Shoe L.H.	1	YUCUP
9	B19902-1	Bottom Bearing Casting Only R.H.	1	YUEAT
10	B19902-2	Bottom Bearing Casting Only L.H.	1	YUFOG
11	B19902-101	Bottom Bearing with Bushing 256-2 R.H.	1	YUAOP
12	B19902-102	Bottom Bearing with Bushing 256-2 L.H.	1	YUFMT
13	B19916-1	Top Bearing Casting Only R.H.	1	YUGAG
14	B19916-2	Top Bearing Casting Only L.H.	1	YUHOP
15	B19916-101	Top Bearing with Bushings 256-2 R.H.	1	YUDID
16	B19916-102	Top Bearing with Bushings 256-2 L.H.	1	YUDAL
17	B19939	Compactor Plate	1	YUMUM
18	B19948-101	Torque Shaft Assembly with Bushing 256-3	2	YUKEY
19	B19949-101	Equalizing Shaft and Bearings Assembly	1	YULUB
20	D19952	Tension Bar	1	YUOUR
21	D19988	Bottom Tension Angle	1	YUPOR
22	D19999	Guide Track	2	YUREK
23	B20063-27	Cotter Pin 3/8 x 4 in. lg.	2	YUAKP
24	B20063-52	Lock Washer 5/8 in. S.A.E. Reg.	28	YUAPI
25	B20063-53	Hex. Hd. Mach. Bolt 5/8-11 N.C. x 2 in. lg.	2	YUBAE
26	B20063-54	Hex. Hd. Mach. Bolt 5/8-11 N.C. x 5 in. lg.	2	YUBUF
27	B20063-55	Hex. Nut 5/8 in. - 11 N.C.	20	YUBOD
28	B20063-56	Socket Hd. Set Screw 3/8-16 N.C. x 3/4 in. lg.	4	YUCAF
29	B20063-57	Hex. Hd. Mach. Bolt 1/2-13 N.C. x 4 in. lg.	6	YUCET
30	B20063-58	Reg. Hex. Nut 1/2 in. - 13 N.C.	6	YUCOC
31	B20063-59	Lock Washer 1/2 in. S.A.E. Reg.	6	YUEIL
32	B20063-60	Countersunk Pipe Plug 1-1/4 in.	2	YUEOW
33	B20063-61	Hex. Hd. Cap Screw 5/16-18 N.C. x 1-1/4 in. lg.	2	YUEUS
34	B20063-62	Reg. Hex. Nut 5/16 in. - 18 N.C.	2	YUFAR
35	B20063-63	Lock Washer 5/16 in. S.A.E. Reg.	2	YUFIK
36	B20063-64	Cotter Pin 3/16 x 1-1/2 in. lg.	2	YUFUS
37	B20063-65	Hex. Hd. Cap Screw 5/8-11 N.C. x 1-1/4 in. lg.	8	YUHEM
38	B20063-66	Hex. Hd. Mach. Bolt 5/8-11 N.C. x 1-3/4 in. lg.	8	YUHUT
39	B20063-67	Hex. Hd. Mach. Bolt 5/8-11 N.C. x 2 in. lg.	8	YUHLS
40	B20076	Cylinder Connecting Yoke	1	YUAUM
41	E20080	Pin for Piston Rod	1	YAEOF
42	D20091	Long Pin for Plate	2	YUBEK
43	D20340-102	Horizontal Connecting Link with Bushings	4	YUCIK
44	D20341-102	Vertical Connecting Link with Bushings	2	YUERP
45	D20389	Plate Shield	1	YUHIO
46	D20784	Brace	1	YOSYE
47	B21336	Frame Welded Assembly	1	YUROS

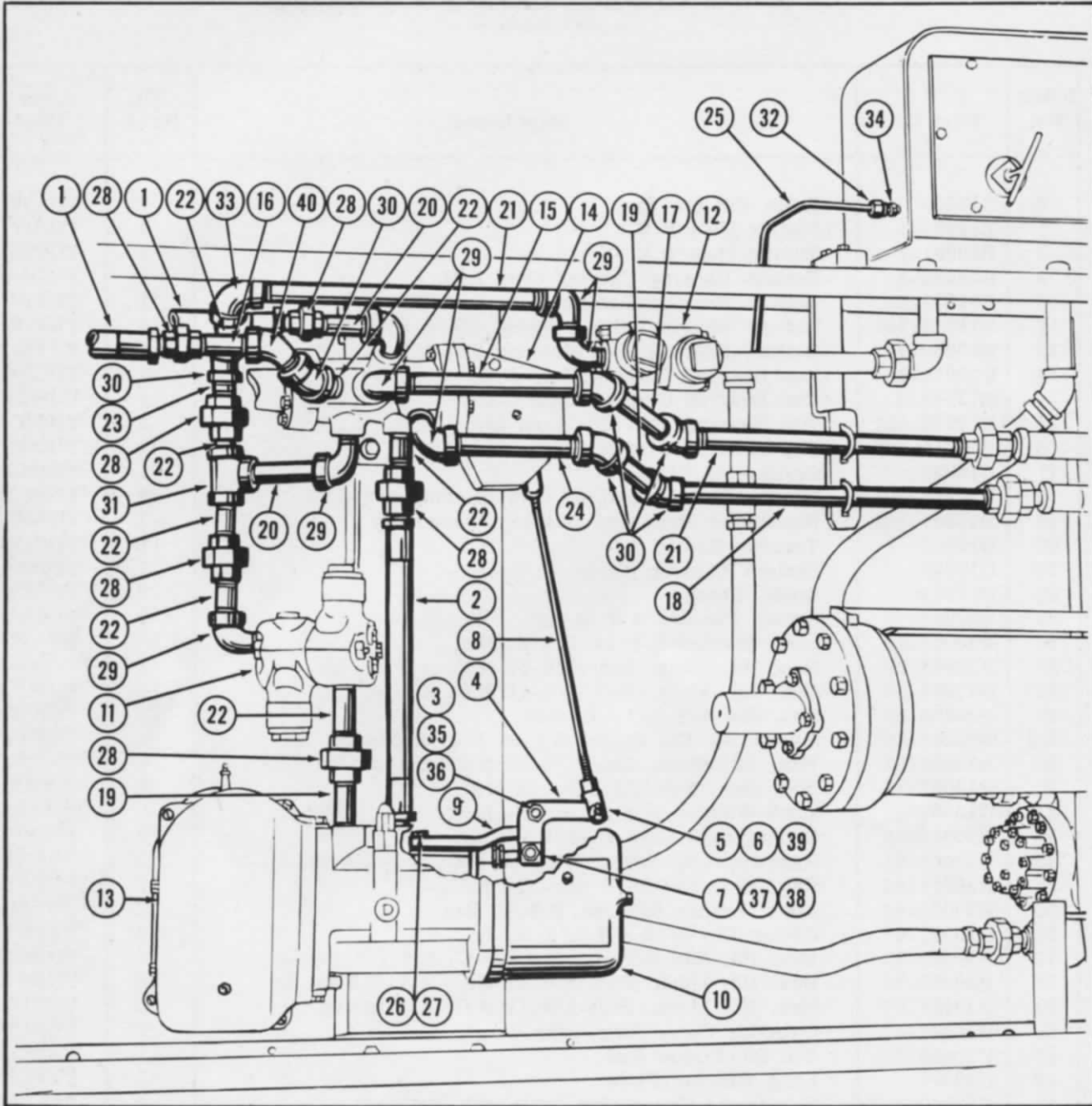


Figure S7 - Compactor Piping Assembly

MASTER COMPACTOR PIPING ASSEMBLY
(SEE FIGURE S7)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	1142-3	Flexible Tubing 3/4 x 30 in. lg.	2	YACUT
2	1190	Flexible Tubing 3/4 x 12 in. lg.	1	WADLO
3	E19228	Bolt for Quadrant E19493	1	WAERS
4	E19493	Quadrant	1	WAHTO
5	E19494	Clevis	1	WAKES

Master Compactor Piping Assembly

MASTER COMPACTOR PIPING ASSEMBLY (Continued)

(SEE FIGURE S7)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
6	E19495	Clevis Pin	1	WAOPL
7	E19497	Quadrant Operating Dowel	1	WAPFB
8	E19498	Knockout Connecting Rod	1	WARSE
9	D19499	Quadrant Bearing	1	WASIN
10	D19852	Front Hood	1	WATER
11	B20022-101	Bucket Holding Valve Assembly (See Figure 28)	1	RCOTR
12	B20023-101	Foot Valve Assembly (See Figure 29)	1	UFABL
13	B20066-101*	Operating Valve Assembly	1	WEBER
14	B20106-101	Compactor Valve Assembly (See Figure S11)	1	WEKSL
15	D21279	Pipe Nipple 3/4 x 9-1/2 in. lg.	1	WOBSV
16	D21291	Pipe Nipple 3/4 x 3 in. lg.	1	RYFKW
17	D21292	Pipe Nipple 3/4 x 5-1/2 in. lg.	1	WITHE
18	D21293	Pipe Nipple 3/4 x 16-1/2 in. lg.	1	WISRP
19	D21294	Pipe Nipple 3/4 x 4 in. lg.	2	RBKUT
20	D21295	Pipe Nipple 3/4 x 4-1/4 in. lg.	2	WOFLE
21	D21296	Pipe Nipple 3/4 x 14-1/2 in. lg.	2	WOKAC
22	D21302	Close Nipple 3/4 in.	7	RVUMA
23	D21305	Pipe Nipple 3/4 x 2-1/2 in. lg.	1	RYETU
24	D21306	Pipe Nipple 3/4 x 7-1/2 in. lg.	1	RVEST
25	D21307	Oil Return Tube	1	WOHIT
26	B21338-1	Lock Washer 3/8 in. S.A.E. Reg.	2	REYHU
27	B21338-2	Hex. Hd. Cap Screw 3/8-16 N.C. x 1 in. lg.	2	RAJOT
28	B21338-3	Female Union 3/4 in.	6	RSAMJ
29	B21338-4	Street Elbow 3/4 in. x 90 degrees	7	RYFVH
30	B21338-5	Elbow 3/4 in. x 45 degrees	6	WOPEK
31	B21338-6	Tee 3/4 in.	1	RKUST
32	B21338-7	Straight Connector No. 1309	2	ACOMR
33	B21338-10	Elbow 3/4 in. x 90 degrees	1	USARO
34	B21338-13	Weatherhead Bushing 1/4 in. - 18 pipe thread	1	WIBST
35	B21338-14	Lock Washer 1/2 in. S.A.E. Reg.	1	RTUTL
36	B21338-15	Hex. Nut 1/2 in. - 20 N.F.	1	WITRE
37	B21338-16	Socket Hd. Set Screw 3/8-16 N.C. x 3/4 in. lg.	1	WIGAM
38	B21338-17	Hex. Jam Nut 3/8 in. - 16 N.C.	1	WIHBF
39	B21338-18	Cotter Pin 1/8 x 1 in. lg.	1	WIKEN
40	B21338-21	Street Elbow 3/4 in. x 45 degrees	1	WOTAB

NOTE

*This valve replaces standard valve on Refuse-Getters equipped with Compactor. For valve parts not shown on this page, refer to figure 30.

For parts not identified by number, refer to figure 27.

All pipe nipples must be double strength and galvanized. All fittings (elbows, unions, etc.) must be A.A.R. Malleable Iron Fittings.

Master Compactor Piping - Cylinder To Valve

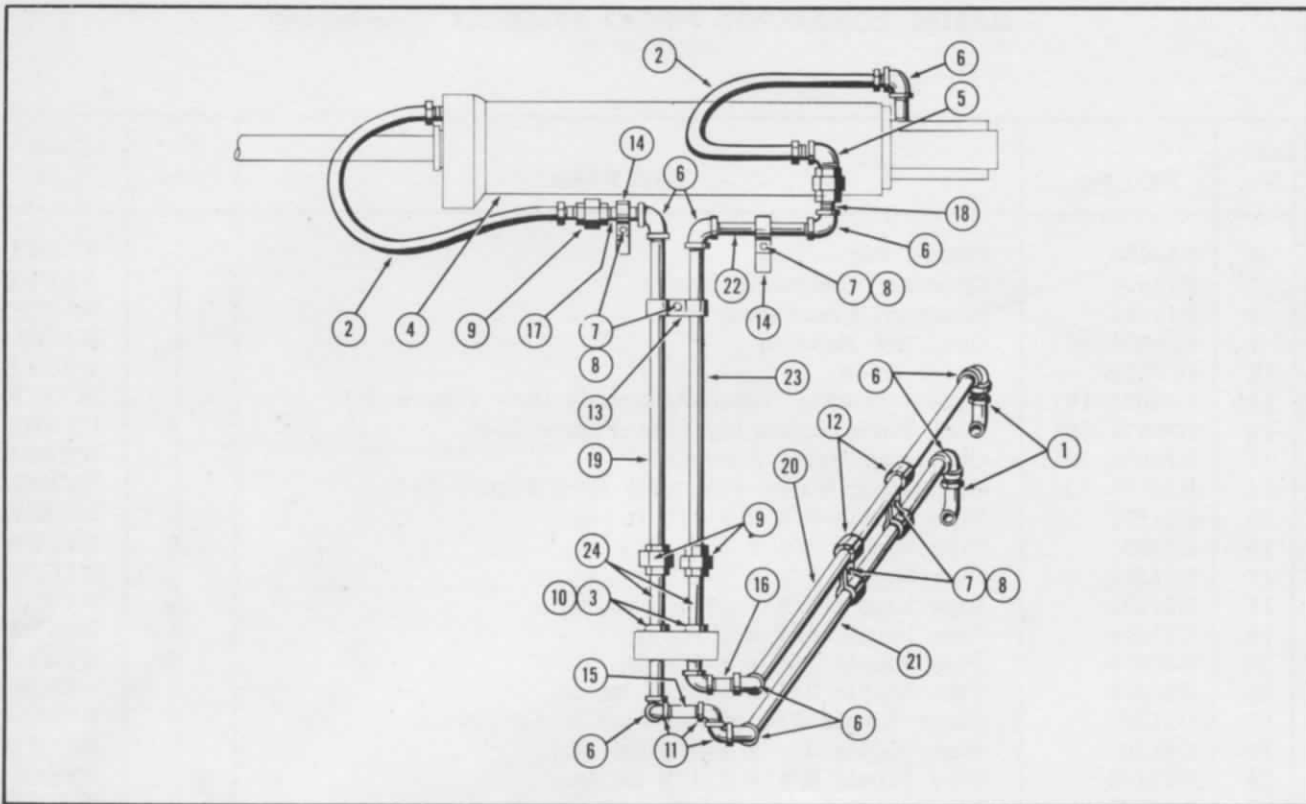


Figure S8. - Compactor Piping - Cylinder To Valve

MASTER COMPACTOR PIPING—CYLINDER TO VALVE

(SEE FIGURE S8)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	1142-3	Flexible Tubing 3/4 x 30 in. lg.	2	YACUT
2	1142-5	Flexible Tubing 3/4 x 36 in. lg.	2	YACAP
3	E19453	Packing Nut	2	YACOB
4	B20061-101	Compactor Operating Cylinder Assembly (See figure S10)	1	YUSAP
5	B20063-29	3/4 in. Female Union with 90 degree Elbow	1	YOPAM
6	B20063-31	Elbow 3/4 in. x 90 degrees	10	USARO
7	B20063-35	Hex. Hd. Cap Screw 3/8-16 N.C. x 3/4 in. lg.	5	YUTAC
8	B20063-36	Lock Washer 3/8 in. S.A.E. Reg.	5	REYHU
9	B20063-41	Female R.R. Union 3/4 in.	3	YOART
10	B20063-43	Palmetto Packing 1/4 x 8 in. lg.	2	YEARS
11	B20063-46	Street Elbow 3/4 in. x 90 degrees	3	RYFVLI
12	E20388	Pipe Clamp	2	YUGUN
13	E20392	Pipe Clamp	1	YUHAR
14	E20798	Pipe Clamp	2	YUAIR
15	D21281	Pipe Nipple 3/4 x 2-3/4 in. lg.	1	YUPIK
16	D21288	Pipe Nipple 3/4 x 3 in. lg.	2	RKOMA
17	D21291	Pipe Nipple 3/4 x 3 in. lg.	1	RYFKW
18	D21302	Close Nipple 3/4 in.	1	RVUMA
19	D21320	Pipe 3/4 x 24-1/2 in. lg.	1	YURIC
20	D21321	Pipe 3/4 x 85-1/2 in. lg.	1	YUFEP
21	D21322	Pipe 3/4 x 80 in. lg.	1	YUKAT
22	D21323	Pipe Nipple 3/4 x 8 in. lg.	1	YUTOP
23	D21324	Pipe Nipple 3/4 x 23 in. lg.	1	YUSIT
24	D21325	Pipe Nipple 3/4 x 10 in. lg.	2	YURAP

Master Compactor Control

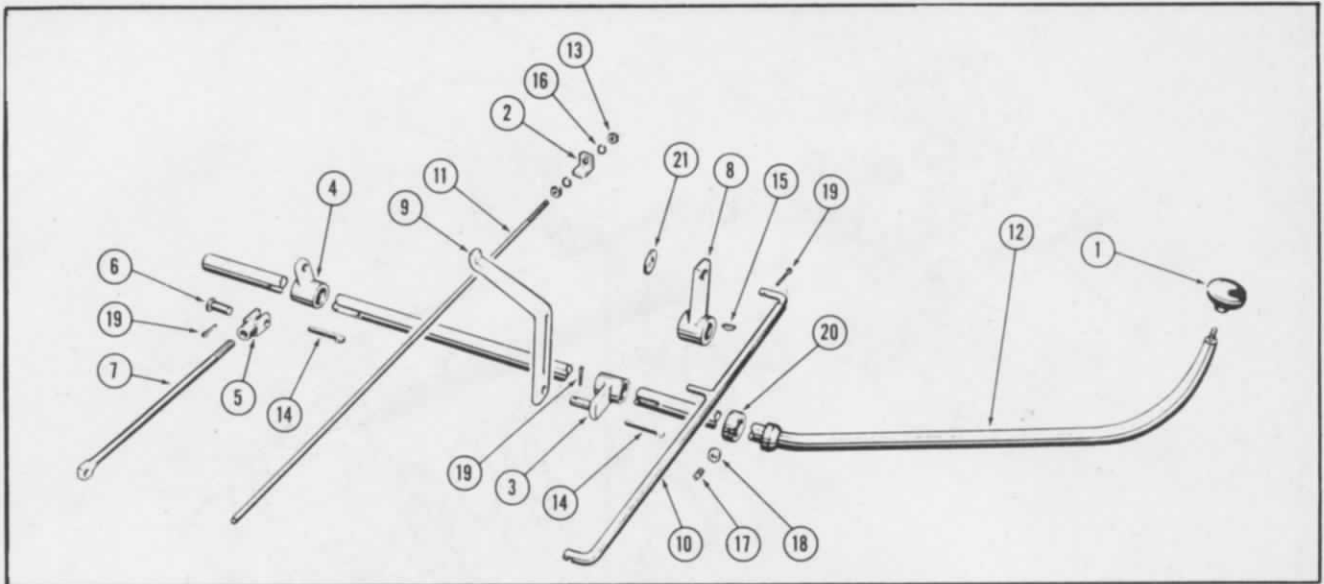


Figure S9 - Compactor Control

MASTER COMPACTOR CONTROL (SEE FIGURE S9)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	1152	Knob	1	SMOAY
2	E19238	Bucket Stop	1	WABWE
3	E19253	Bucket Stop Operating Lever	1	WAFLE
4	E19492	Push Rod Operating Lever	1	WAGED
5	E19494	Clevis	1	WAKES
6	E19495	Clevis Pin	2	WAOPL
7	D20107	Compactor Valve Push Rod	1	WEDEL
8	D20111	Valve Operating Lever	1	WELAR
9	D20126	Bucket Stop Lever	1	WEPOB
10	E20150	Valve Operating Rod	1	WEOKT
11	D20153	Bucket Stop Rod	1	WOBCE
12	D20154	Compactor Valve Control Lever	1	WERIF
13	B21338-9	Hex. Nut 1/2 in.-13 N.C.	2	ROTEL
14	B21338-11	Gib Key 1/4 x 1/4 x 2 in. lg.	2	WASOY
15	B21338-12	Woodruff Key No. 15	1	LSWRA
16	B21338-14	Lock Washer 1/2 in.	2	PTUTL
17	B21338-16	Socket Hd. Set Screw 3/8-16 N.C. x 3/4 in. lg.	2	WIGAM
18	B21338-17	Hex. Jam Nut 3/8 in.-16 N.C.	2	WIHBF
19	B21338-18	Cotter Pin 1/8 x 1 in. lg.	3	WIKEN
20	B21338-19	Set Collar 1 in.	1	WOYMG
21	B21338-20	Washer 1/2 in.	1	WOSIK

Master Compactor Parts Catalog

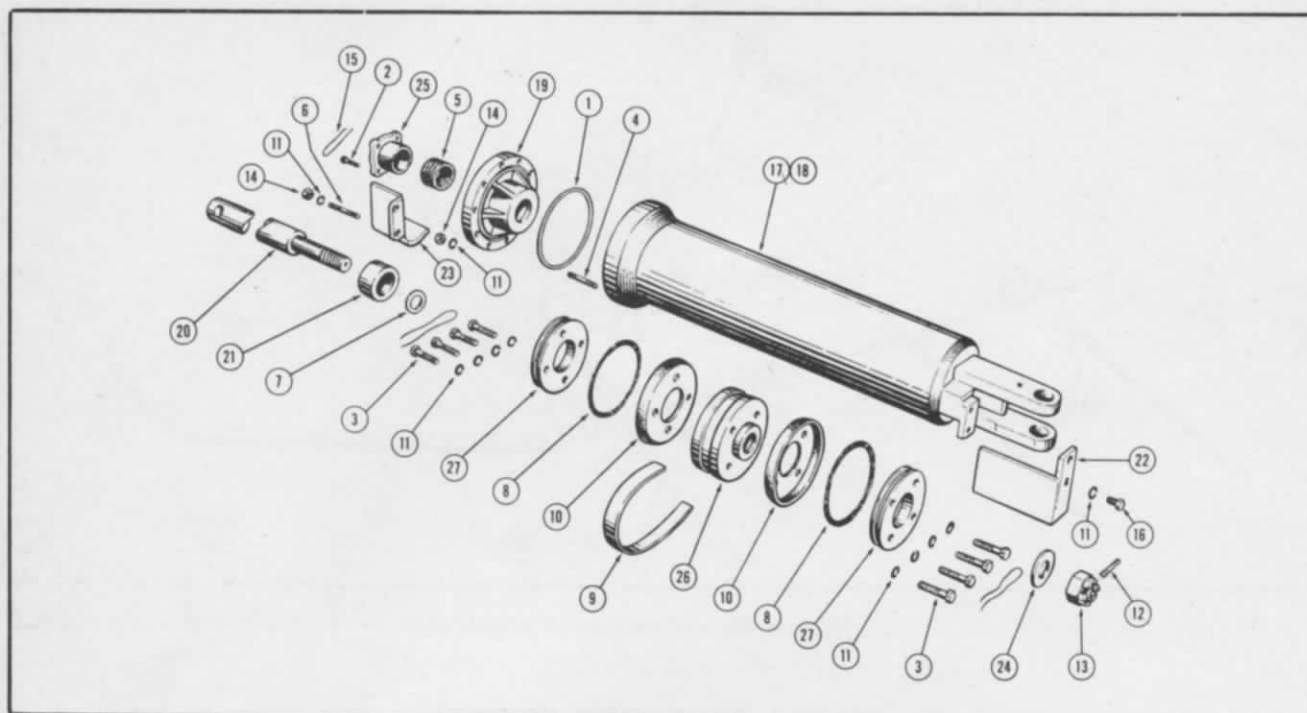


Figure S10 - Compactor Cylinder Assembly

MASTER COMPACTOR CYLINDER ASSEMBLY (SEE FIGURE S10)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	1006-5	Gasket	1	FABIK
2	1122-7	Cap Screw	4	FABOT
3	1123-9	Hex. Hd. Cap Screw	8	FACES
4	1151	Stud	8	FACIA
5	1159-7	Packing	1	FAEBL
6	1196	Stud	2	FAFOC
7	1252	Gasket	1	FAGUS
8	1298	Spring	2	FAHRF
9	1299	Leather Strip	1	FAHES
10	1300	Leather Cup	2	FAKAG
11	B20068-10	Lock Washer 1/2 in. S.A.E.	20	FEARS
12	B20068-16	Cotter Pin 3/16 x 2-1/2 in. lg.	1	FEAST
13	B20068-17	Std. Castellated Nut 1-1/4 in. - 12 N.F.	1	FEBLE
14	B20068-21	Hex. Nut 1/2 in. - 20 N.F.	10	FEFIT
15	B20068-23	Wire 1/16 x 10 in. lg.	1	FEGOP
16	B20068-27	Hex. Hd. Cap Screw 1/2-13 N.C. x 3/4 in. lg.	2	FEHUS
17	B20068-101	Compactor Cylinder Assembly	1	FEUBA
18	B20074	Cylinder Welded Assembly Only	1	FAPRS
19	B20075	Cylinder Head	1	FAROK
20	D20077	Piston Rod	1	FASAD
21	D20082	Spacer	1	FATIR
22	D20087	Guard L.H.	1	FAGOT
23	D20088	Guard R.H.	1	FAGRBR
24	D20200	Washer	1	FEKRT
25	D20415	Packing Gland Nut	1	FERLO
26	D20848	Piston	1	FESFE
27	D20849	Cup Disc	1	FETSA

Compactor Valve Assembly

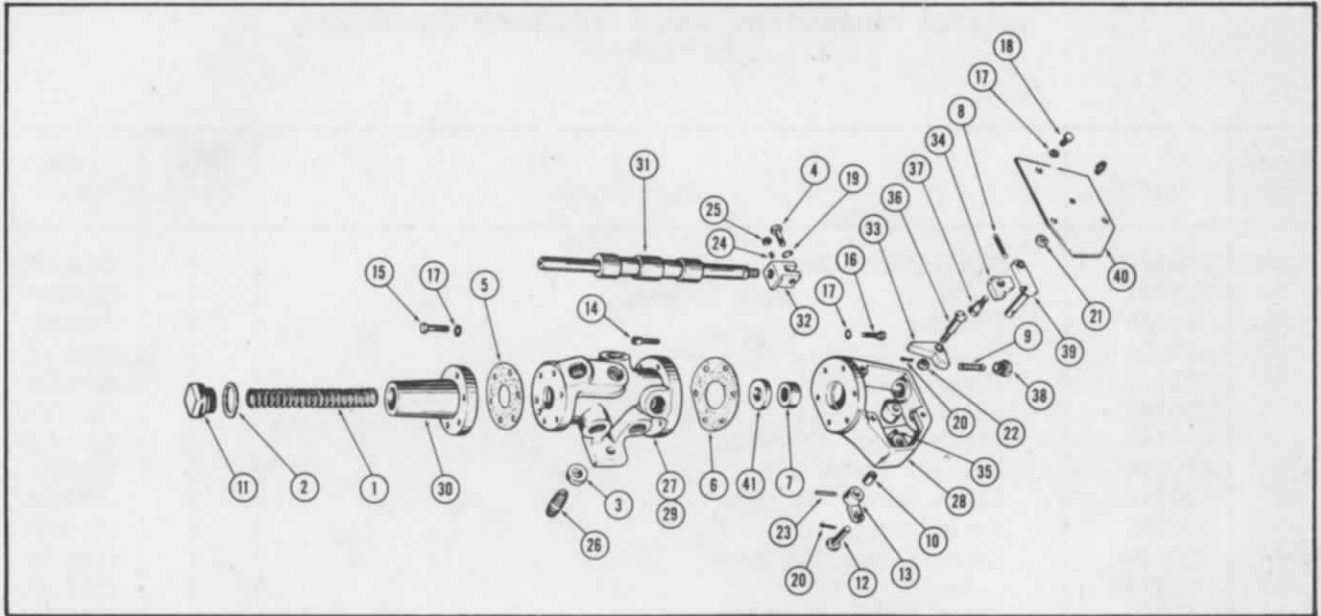


Figure S11 - Compactor Valve Assembly

MASTER COMPACTOR VALVE ASSEMBLY

(SEE FIGURE S11)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
1	219	Compression Spring	1	GABLT
2	1006-7	Gasket	1	GALAO
3	1216	Leather Washer	1	GUMTF
4	1233	Plunger Clevis Bolt	1	GAKLU
5	1236	Gasket - Rear	1	GADOR
6	1237	Gasket - Front	1	GAKDL
7	1239	Oil Seal	1	GATOR
8	1246	Tension Spring	1	GAUGK
9	1247	Compression Spring	1	GFUCL
10	1294	Bushing	1	GFKAR
11	E19230	Spring Retainer	1	GFATL
12	E19495	Clevis Pin	1	GLAME
13	E19496	Clevis Arm	1	GLATU
14	B20106-1	Socket Hd. Cap Screw 5/16-18 N.C. x 1-1/4 in. lg.	3	GRCOL
15	B20106-2	Hex. Hd. Cap Screw 5/16-18 N.C. x 1 in. lg.	6	GRFOS
16	B20106-3	Hex. Hd. Cap Screw 5/16-18 N.C. x 1-1/4 in. lg.	3	GRSTU
17	B20106-4	Lock Washer 5/16 in. S.A.E. Reg.	12	GRUMA
18	B20106-5	Hex. Hd. Cap Screw 5/16-18 N.C. x 3/4 in. lg.	3	GRKLE
19	B20106-6	Lock Washer 3/8 in. S.A.E. Reg.	1	GRLUC
20	B20106-7	Cotter Pin 1/8 x 1 in. lg.	2	GROST
21	B20106-8	Hex. Nut 3/8 in. - 16 N.C.	1	GUATE
22	B20106-9	Castellated Nut 3/8 in. - 24 N.F.	1	GURSK
23	B20106-10	Taper Pin No. 4 x 1-1/2 in. lg.	1	GUTSA
24	B20106-11	Socket Hd. Cup Point Set Screw 1/4-20 N.C. x 5/8 in. lg.	1	GUREL
25	B20106-12	Reg. Hex. Jam Nut 1/4 in. - 20 N.C.	1	GRSEA
26	B20106-13	Short Nipple 1/4 in. Extra Strong	1	GAPLA
27	B20106-101	Compactor Valve Assembly	1	GLOTA
28	B20155-101	Valve Cover Casting with Bushing	1	GLERS

MASTER COMPACTOR

MASTER COMPACTOR VALVE ASSEMBLY (Continued)
(SEE FIGURE S11)

Index No.	Part No.	Part Name	No. Reqd.	Code Word
29	B20156*	Valve Body Only	*	GLRUE
30	D20157	Valve Cover - Rear	1	GLRSP
31	D20158*	Plunger	*	GORSE
32	E20160	Plunger Clevis	1	GOATL
33	E20161	Plunger Latch	1	GOESA
34	E20162	Latch Knock-Out	1	GOERK
35	E20163	Latch Knock-Out Stop	1	GOALR
36	E20164	Plunger Latch Pin	1	GOUSP
37	E20165	Latch Knock-Out Pin	1	GOPLA
38	E20166	Spring Plug	1	GROWS
39	E20168	Latch Knock-Out Arm	1	GRAPE
40	D20174	Cover	1	GREMO
41	E20175	Valve Cover Washer	1	GREAT
NOTE				
*These items are not supplied separately for replacement in the field. However, Valve Body B20156 may be purchased with Plunger D20158.				

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~~223~~
650

1120

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