

D101.11:
5-9207

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER

D101.11:

TM 5-9207

TO 19-75AB-44

TRAILER
FULL, LOWBED, 60-TON
DORSEY MODEL MT-60W

UNIVERSITY OF VIRGINIA LIBRARY



X004816097

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
DECEMBER 1952

DEPARTMENTS OF THE ARMY
AND THE AIR FORCE

WASHINGTON 25, D. C., 7 November 1952

TM 5-9207/TO 19-75AB-44 is published for the information and guidance of all concerned.

[AG 451.3 (8 Oct 52)]

BY ORDER OF THE SECRETARIES OF THE ARMY AND THE AIR FORCE:

OFFICIAL:

WM. E. BERGIN
Major General, USA
The Adjutant General

J. LAWTON COLLINS

Chief of Staff, United States Army

OFFICIAL:

K. E. THIEBAUD
Colonel, USAF
Air Adjutant General

HOYT S. VANDENBERG

Chief of Staff, United States Air Force

DISTRIBUTION:

Active Army:

Tech Svc Bd (1); AFF (3); OS Maj Comd (2); Base Comd (1);
MDW (2); Log Comd (2); A (5); Brig 5 (1); Regt 5 (1); FT (1); Sch 5
(25); USMA (2); PMS & T 5 (1); Gen Dep (2) except Columbus (10);
Dep 5 (excluding Engr Sec, Gen Dep) (5), Engr Sec, Gen Dep (2);
POE (3), OSD (2); Ars (2); Engr Dist (1), Mil Dist (1); T/O &
E's: 5-157A (2); 5-267A (2); 5-268 (2); 5-279 (2); 5-328 (1);
5-329 (1); 5-357 (2); 5-367 (2); 5-415 (1); 5-416 (1); 5-621T (2).

NG: One copy to T/O & E units only as listed above.

ORC: One copy to T/O & E units only as listed above.

For explanation of distribution formula, see SR 310-90-1.

I N D E X

<u>ITEM</u>	<u>PAGE NO.</u>
Index	1
General Data	2
Lubrication Instructions	3
Wiring Diagram	4
Wheels, Hubs, Drums, Wheel Bearings	5
Axle and Walking Beams	6
Brakes	7 - 8
Brake Operating System	9 - 14
Controls and Operation	15 - 16
Parts List	17 - 22

GENERAL DATA

Type Low Bed Machinery
Full Trailer

Dimensions:

Height of Platform 34-1/2"
Loading Height 31-1/2"
Width of Platform 120"
Overall Length with Drawbar 41'-6"
Overall Height 70"

Speed with Maximum Load 10 MPH

Size of Tires:

Rear: 9.00 x 15 - 12 Ply
Front: 12.00 x 20 - 14 Ply

Air Pressure

Rear 75 Lbs.
Front 75 Lbs.

Weight Unloaded 29,000 Lbs.

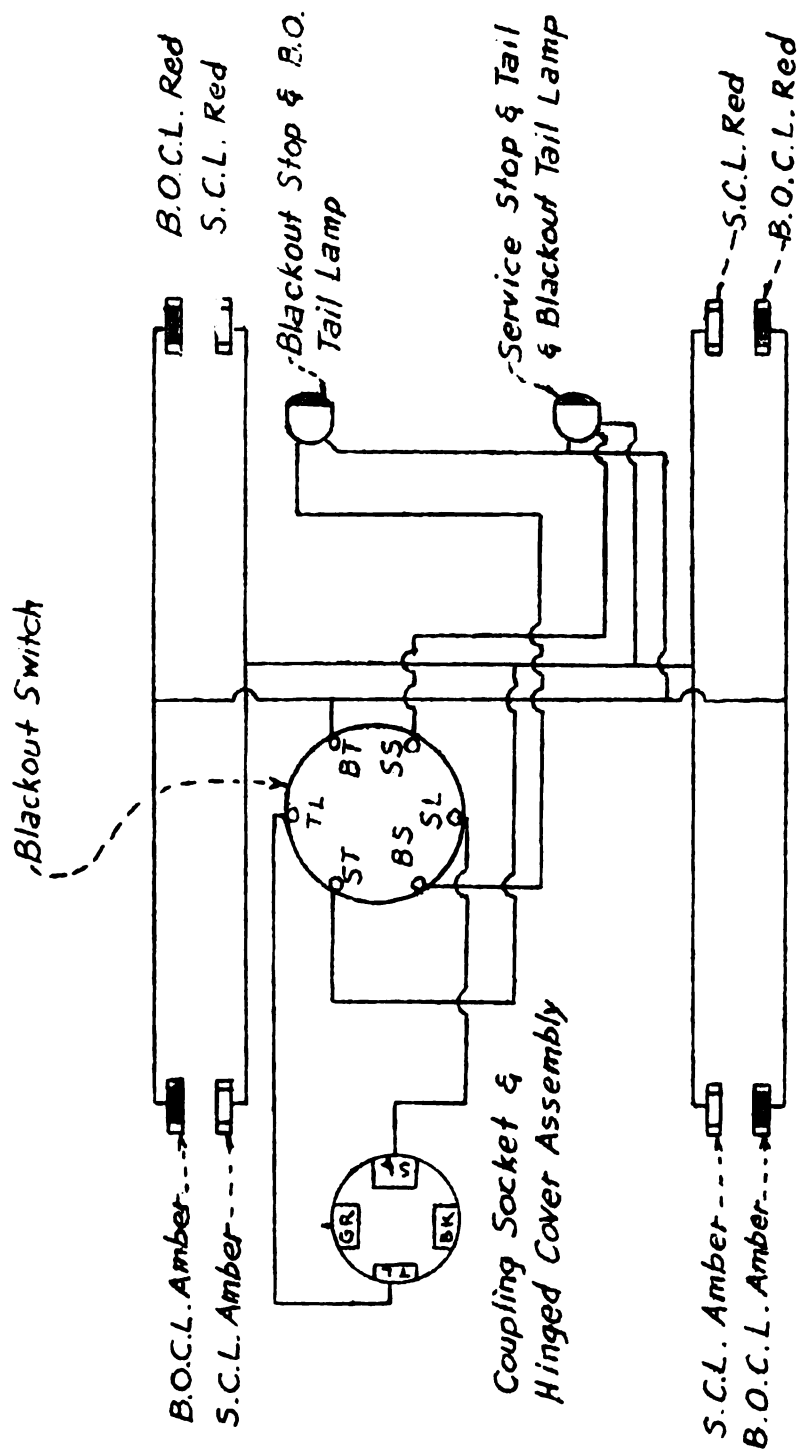
Maximum Payload (Capacity) 120,000 Lbs.

UV

LUBRICATION INSTRUCTIONS

- A. Brake Anchor Pins, Brake Camshaft, Drawbar Hinge Pins, Slack Adjusters, Hand Brake Shaft, Walking Beam Bearings, Trunnion Axle Bearings - Use Grease, General Purpose No. 1 every 5,000 miles or every 2 weeks.
- B. Wheel Bearings - Use Grease, General Purpose No. 2 every 3,000 miles or 3 months.
- C. Brake Linkage - Use Oil, Engine SAE 30, every 3,000 miles or 3 months.
- D. Dolly Swivel Plate and Top Plate of Dolly - Use a heavy grade of Fibre Grease every 1,000 miles or every month.

CAUTION: Do not use an excessive amount of lubricant in the wheels as the excess will be forced out past the grease seals and possibly into the brake lining and drums, reducing braking efficiency and destroying the lining.



TRAILER WIRING DIAGRAM

Wheels, Hubs, Wheel Bearings and Brake Drums

1. Hub and Drum Assembly Removal:

- a. Remove wheel and tire assembly. Place check blocks in front and rear of opposite wheel to act as brake. Jack up axle sufficiently for wheels to clear ground. Remove wheel and tire assembly.
- b. Release Air Brakes. Open drain cock on bottom of air reservoir to release air.
- c. Remove Hub Cap and Bearing Nuts. Remove hub cap retaining screws and lift off hub cap. Remove wheel bearing jam nut, wheel bearing, adjusting nut lock washer, and wheel bearing adjusting nut from spindle.
- d. Remove Hub and Drum Assembly. Grasp the drum and pull forward until the hub and drum assembly is free from the axle spindle. Carefully support hub and drum, while removing, to avoid damage to the oil seal.

2. Bearing and Bearing Cup Removal:

- a. Remove Bearings. Remove outer bearing cone and roller assembly from hub. Remove inner bearing from spindle. Inspect oil seal and replace if needed.
- b. Remove Bearing Cup. Place hub assembly on wood blocks with bearing cup to be removed facing down. Insert drift pin into hub opening and rest lower end on inside shoulder or edge of cup. Drive the pin against cup. Move drift pin to opposite side of bearing cup and repeat. By alternating in this manner, the cup will come out straight with the cup bore.

3. Hub and Bearing Maintenance:

- a. Clean inner and outer cups and cones with dry cleaning solvent.
- b. Inspect the cones for wear. Replace if damaged or worn.
- c. Inspect the inner and outer bearing cups in hub assembly for wear, pits and scratches. Replace if necessary.
- d. Inspect hub studs and replace any which have stripped threads or other damage.
- e. Inspect brake drum for scoring. If drums are scored they must be turned smooth or replaced.
- f. Inspect oil seal. Always replace defective oil seal with new one.
- g. Hand pack inner and outer cones with General Purpose Grease, No. 2.

4. Bearing and Bearing Cup Installation:

- a. Install bearing cup. Remove all old grease from inside hub and drum assembly and clean inside of hub with dry cleaning solvent. Dry and place hub on wood block. Start new bearing cup square with the bore, having the smaller inside diameter placed so that it will be on the inside when the cup is in place. Place a piece of hardwood over the cup face and drive cup in until it is flush with

outer edge of hub. Place old cup over new one and drive new cup in until it is absolutely tight with cup bore flange. Fill the space in the hub between the two bearing cups with General Purpose Grease No. 2.

b. Install Bearings. Remove all old grease from axle spindle and clean spindle with dry cleaning solvent. Clean outer and inner bearing cones with solvent and hand pack with General Purpose Grease No. 2. Install outer bearing in hub and inner bearing on spindle.

5. Hub and Drum Assembly Installation:

a. Install Hub and Drum Assembly. Slide hub and drum assembly onto axle spindle and push into position, carefully supporting it to avoid damage to the oil seal.

b. Install Bearing Nuts and Hub Cap. Install wheel bearing adjusting nut, adjusting nut lock washer, and wheel bearing jam nut. Tighten wheel bearing adjusting nut until wheel binds, rotating wheel. Back off adjusting nut 1/6 turn or more, until wheels rotate freely. Tighten jam nut.

c. Install tire and wheel assemblies and close drain cock on air reservoir.

Axles and Walking Beams

1. Trailer Axle Removal:

- a. Jack up rear of trailer and place block of wood between walking beam and frame on end from which axle is to be removed, to prevent oscillation of beam.
- b. Remove wheels (See page 5)
- c. Disconnect brake rods.
- d. Remove cotter pin and large nut from end of walking beam spindle and slide entire axle assembly off of spindle.

2. Walking Beam Removal:

- a. Jack up rear of Trailer.
- b. Disconnect brake rods.
- c. Remove bolts from outer brackets. Slide entire assembly outward.

3. Dolly Axle Removal:

- a. Turn dolly bottom side up.
- b. Disconnect brake rod.
- c. Remove bolts from front bracket and slide entire assembly forward.

Brakes

1. Maintenance and Adjustments:

a. Maintenance. The proper functioning of the brake system is of vital importance. A freely operating brake control system permits the shoes to return completely against their anchor pins at all times when the brakes are released. When taking up linkage or backlash caused by wear, care must be taken to insure that the shoes return against their anchors, and the cam block is free between the shoe ends. The return springs are provided to return the shoes to the released position, and weak or broken springs must be replaced.

b. Minor Adjustments. The only brake adjustment required to compensate for wear is performed by rotating the slack adjuster lever worm screw clockwise until the brake drums begin to drag on the lining and then backing them off until the brakes are free. This should be done with the wheels jacked clear of the ground. Every 5,000 to 10,000 miles the wheels and drums should be removed and lining checked to see that sufficient lining remains. The lining blocks should be replaced when they are worn to within 1/32 to 1/16 inch of the rivet heads holding the lining to the shoes.

c. Major Adjustments. If the brake linings are found to be worn to within 1/16 to 1/32 inch of the lining rivet heads, the linings should be removed and replaced with new ones.

(1) After new linings have been installed, the usual brake adjustment must be completed by adjusting the slack adjusters. After the unit has been run 10 to 25 miles, it will be necessary to readjust the slack adjusters. The slack adjusters should be watched very carefully during the next 500 to 1,000 miles and should be adjusted every day, or twice a day if it is found that the travel of the slack adjusters increases very rapidly.

2. Brake Shoe Assembly Removal:

a. Jack up vehicle, and remove wheel and tire assembly.

b. Remove the cap screws holding the hub cap in place with an open end or socket wrench; remove the hub cap.

c. With an axle adjusting nut wrench, unscrew the wheel bearing jam nut, pull the adjusting nut lock washer off the spindle and unscrew the adjusting nut. Then pull the hub and drum assembly off the axle spindle, taking care not to damage the spindle threads or grease retainer. Pull the hub and drum assembly directly outward, rotating the drum slightly. Unhook and remove the springs from between the shoes. Remove the brake shoe anchor pin lock screw with an open end wrench, a hammer, and a piece of wood (lightly tap the lock out of the way). Remove the anchor pin lock nuts and lock washers, and with a hammer and small piece of hardwood, drive out the brake shoe anchor pins. Lift out the brake shoes and remove the rivets that fasten the worn lining to the shoes. Replace the worn linings with new linings. Remove all burs, marks or rough edges from the surface of the linings that will come in contact with the brake drums. Before reassembling, apply No. 2 chassis lubricant to the brake cams and cam plates.

3. Brake Shoe Assembly Installation:

a. Position brake shoes so that hole in heel end of shoes will be in line with

hole in brake spider. With a hammer and small piece of hardwood, drive in brake shoe anchor pins (coated lightly with grease). Replace anchor pin lock nuts and lock washers, replace anchor pin lock and tighten anchor pin lock screw. Hook brake shoe return springs into place. Before reassembling with hub and drum, check to see that brake spider is not bent and that the rivets holding it to the axle are secure. Test the brake shoe return springs to see that they have the proper resiliency, also check anchor pins for excessive wear. Replace hub and drum assembly. Replace tire and wheel assembly. Adjust brakes.

4. Brake Dust Shields.

a. The purpose of the brake dust shields is to keep grit and gravel out of the brake assembly. The dust shields are fastened to the brake spiders with cap screws and lock washers.

b. Disassembly and Repair. To remove the dust shields, remove the nuts from the studs of each end of the shields with an open end wrench. Remove the cap screws holding the shields to the brake spider and lift shields out of place.

c. Assembly. Place dust shields in position and fasten to brake spider with cap screws. Replace nuts onto studs at each end of the shields.

5. Brake Cams, Camshafts, and Brackets.

a. The purpose of the brake cams is to force the ends of the brake shoes out against the brake drum.

b. Disassembly. Remove hub and drum assembly. Disconnect the brake chamber from the slack adjuster by removing the brake chamber yoke pin cotter and yoke pin. Remove slack adjuster retaining screw and washer at end of camshaft and then pull off slack adjuster. Unhook the brake shoe return spring, to release the pressure on the cam. Loosen the camshaft collar set screw and remove camshaft, pulling same towards spindle end of axle.

c. Assembly. Insert camshaft through holes in brake spider and dust shield. Replace camshaft collar and slide camshaft through hole in bracket. Place camshaft collar against brake spider and tighten set screw. Replace slack adjuster with adjusting end of worm shaft facing down. Replace slack adjuster retaining washer and retaining screw. Before connecting slack adjuster to brake chamber, move slack adjuster back and forth to see that camshaft is free. Connect slack adjuster to brake chamber by replacing yoke pin and securing with yoke pin cotter.

Brake Operating System

1. Complete Air Brake System:

a. Preparation. In order to test the trailer air brake system for serviceability, connect the trailer air brake system to the air brake system of a tractor. Start the engine, if necessary, to charge both air brake systems to 100 pounds as registered by the dash gage on the tractor.

b. Leakage Tests.

(1) With the motor stopped and brakes released observe the rate of drop in air pressure registered by the dash gage on the tractor. The rate of drop in air pressure should not exceed 3 pounds per minute.

(2) With engine stopped and brakes fully applied, observe the rate of drop in air pressure registered by the dash gage. The rate of drop in air pressure should not exceed 4 pounds per minute.

(3) Leakage in either of the above tests is the combined leakage in the air brake system on the tractor and the air brake system on the trailer. Leakage in the trailer air brake system may be determined by comparing the leakage in the above tests with the leakage found in similar tests with the cut-out cocks in the hose lines connecting the tractor the trailer closed.

(4) If leakage in either of the above tests is excessive, check all devices and connections for leakage and repair or replace the leaking device or connection.

c. Operating Tests:

(1) With vehicle moving, apply the brakes and check their effectiveness. Check for quick braking response during application and release of the brakes.

(2) Check to be sure the brakes on all wheels apply and release properly.

2. Relay-Emergency Valve:

a. Function. The relay-emergency valve relays the braking action from the tractor and provides an automatic brake application on the trailer in the event the trailer breaks away from the tractor.

b. Operating Tests.

(1) With the air brake system charged, apply the brakes and check to be sure all brakes apply properly.

(2) Release brakes and check to be sure air pressure is promptly passed from the exhaust port of the relay-emergency valve through the exhaust check valve.

(3) With the air brake system fully charged, close the cut-out cock in the emergency line on the tractor and disconnect the emergency line from the trailer. Check to be sure the trailer brakes apply automatically.

c. Leakage Tests.

(1) With brakes released, coat the exhaust port of the relay-emergency valve with soap suds (or the exhaust check valve if one is installed in the exhaust port of the relay-emergency valve) to determine leakage past the supply valve,

or the upper seal of the emergency diaphragm.

- (2) With brakes fully applied, coat the exhaust port with soap suds to determine leakage past the relay diaphragm.
- (3) With relay emergency valve in emergency position, coat the exhaust port of the relay-emergency valve with soap suds to determine leakage past the emergency valve. Also test for leakage at the emergency line hose coupling at the front of the trailer to determine leakage past the emergency diaphragm seal.
- (4) Leakage in any of the above tests should not exceed a 3-inch soap bubble in 3 seconds. Excessive leakage will be caused by dirty or worn diaphragms, valves, or valve seats. Leakage due to dirt may be corrected by cleaning the valve. If leakage is due to worn parts, the valve should be replaced.

d. Removal. Before removing relay-emergency valve release air from reservoir by opening drain cock. Disconnect all hose and air lines from relay-emergency valve. Remove hex nuts from cap screws holding relay-emergency valve to frame cross member.

e. Installation. Place relay-emergency valve in position on frame cross member. Replace cap screws, lock washers and hex nuts. Insert new sleeves into tubing connector nuts and replace air lines. If connector bodies (straight or elbow) were removed apply white lead or similar substance before reassembly. Replace hose and close drain cock on reservoir.

Brake Chambers:

a. The brake chambers transform the energy of compressed air into mechanical force and motion necessary to operate the brakes. A brake chamber on each wheel is used to operate the brakes.

b. Operating Tests.

(1) Apply brakes and observe that brake chamber push rods move out promptly without any evidence of binding.

(2) Release brakes and observe that brake chamber push rods return to release position promptly without any evidence of binding.

c. Leakage Tests.

(1) With brakes fully applied, coat the bolting flanges, holding the diaphragm in place, with soap suds to check for leakage. No leakage is permissible. If leakage is found, tighten flange bolts. All flange bolts must be tightened evenly to prevent leakage; otherwise the diaphragm will be distorted and premature failure will result.

(2) With brakes fully applied, check for leakage through the diaphragm by coating the clearance hole around the push rod, and the drain holes in the non-pressure plate, with soap suds. No leakage is permissible. If leakage is found, the diaphragm must be replaced.

(3) Excessive push rod travel will cause premature failure of the brake chamber diaphragm. When diaphragms are inspected, brake chamber release springs must also be checked and replaced if necessary. It is important when replacing brake chamber springs to always install the same type of spring as the one removed, otherwise uneven braking will result.

d. Removal and Disassembly. Before removing brake chamber, release air from reservoir by opening drain cock. Disconnect hose, remove yoke pin cotter pin and yoke pin, releasing it from slack adjuster. Remove nut and washer, releasing brake chamber from camshaft bracket. Place brake chamber in a vise. Remove all nuts and hex head bolts around the outer flange. This allows the pressure plate and the diaphragm to be removed. Mark the outer rim of the non-pressure plate and the pressure plate with a center punch, so that proper alignment of the air connection on the pressure plate will be obtained at reassembly.

e. Replace Diaphragm. Place new diaphragm into recess of pressure plate taking care that all holes in both sections are in line. Place pressure plate and diaphragm against push rod, compressing spring until outer flange of non-pressure plate and diaphragm touch, taking care that punch marks on outer rim of both pressure plates are in proper alignment. Hold complete unit rigidly in vise and replace all hex head bolts and nuts. Caution must be exercised to tighten evenly the nuts and hex head bolts holding the diaphragm and plates together. These should be tightened just sufficiently to show a very slight bulge at the outer edge of the chamber diaphragm.

f. Installation. Place brake chamber on camshaft bracket and replace washers and hex nuts. Replace yoke pin through hole in yoke and slack adjuster and secure with yoke pin cotter. Replace hose and close drain cock on reservoir.

4. Slack Adjusters:

a. Slack Adjusters mounted on the brake camshafts provide an easy means of adjusting the brakes to compensate for lining wear. One slack adjuster is used for the brakes on each wheel.

b. Operating Tests. Adjust brakes and note brake chamber push rod travel increases, or if it is difficult to keep the brakes adjusted in service, the slack adjuster must be replaced.

c. Removal. Disconnect the slack adjuster from the brake chamber by removing yoke pin cotter pin and yoke pin. Remove slack adjuster retaining screw and washer at end of camshaft and pull off slack adjuster.

d. Installation. Slide slack adjuster on splined end of camshaft and secure with retaining washer and screw. Before connecting slack adjuster to brake chamber, check to see that the worm wheel is tight on the camshaft. This can be done by oscillating the slack adjuster slightly backward and forward. Connect slack adjuster to brake chamber with yoke pin and cotter pin. Rotate the adjusting worm and see that it operates easily and smoothly. It will be noticed that there is a distinct click every 1/4 turn, which is caused by a spring-loaded ball check.

e. Adjust Slack Adjuster. Jack up wheel. Rotate the adjusting worm clockwise until the brakes drag, then back off the adjusting worm until the brakes run free. After this adjustment be sure that the push-rod travel of the brake chamber be held to its minimum, approximately 3/4 inch.

5. Reservoir:

a. Purpose. The reservoir is used to store the compressed air for brake operation.

b. Leakage Test. With brake system charged, coat the outside of the reservoir with soap suds to check for leakage. No leakage is permissible. If any leakage is found, the reservoir must be replaced.

c. Inspection. Inspect inside and outside surfaces for damage or corrosion. If any damage or corrosion is found that would weaken the reservoir, replace.

d. Removal. Open drain cock to release air. Disconnect air line at tubing connection. Remove 6-inch machine bolts from reservoir mounting brackets, spreading brackets and permitting removal of reservoir.

e. Installation. Position reservoir between mounting brackets, replace 6-inch machine bolts and secure with lock washers and hex nuts. Insert new sleeve into tubing connector nut and replace air line. If connector body was removed apply white lead before reassembly.

6. Drain Cock:

a. Drainage. The drain cock is mounted at the bottom of the reservoir to permit condensation, which normally collects there, to be drained. All reservoirs must be drained at least once a week.

b. Leakage Tests.

(1) With air brake system fully charged, test for leakage past the key, using the soap suds. Also check for leakage through the body by coating the outside of the drain cock with soap suds.

(2) Leakage in excess of a three inch soap bubble in three seconds is not permissible.

(3) Leakage will be caused by a dirty or damaged key or body. Leakage due to dirt can be corrected by cleaning and applying a coating of general purpose grease on the key before reassembling. Leakage due to a damaged key or body necessitates the replacement of the drain cock.

c. Removal and Disassembly. Open drain cock to release air from reservoir. Remove drain cock from reservoir with open-end wrench. Place in vise and remove cotter pin at end of tapered key. Remove spring lock washer, plain washer and key.

d. Reassembly and Installation. Install tapered key in drain cock body, slip plain washer, spring and lock washer over end of key and secure with cotter pin. When installing drain cock on reservoir apply white lead to pipe thread. Care must be taken not to bend the tapered key or to damage the body of the drain cock.

7. Hose Couplings:

a. Mounting. Hose couplings are mounted at the service line and emergency line outlets to provide a simple means of attaching hose connections from the tractor air brake system.

b. Leakage Tests.

(1) With the hose couplings connected and brakes applied, coat the hose couplings with soap suds. There must be no leakage.

(2) Leakage is caused usually by worn, damaged, or improperly installed gaskets. Install a new gasket to correct leakage.

(3) Pry old gaskets out with a screwdriver.

(4) Before attempting to install a new gasket, be sure the groove in the coupling in which the gasket fits is thoroughly cleaned, otherwise it will be impossible to properly install a new gasket.

(5) To install a new gasket, partially collapse it with the fingers and enter

one side of the gasket flange in the groove in the coupling. Then use a blunt nose screwdriver or some similar instrument to push the gasket into place. When properly installed, the exposed face of the gasket will be flat, not twisted or bulged at any point.

c. Removal and Installation. All that is required for the removal or installation of hose couplings is an open-end wrench. Before reassembly apply white lead or similar substance to pipe thread.

8. Hose Assemblies:

a. Connections. Hose assemblies are used to connect the air line between two points of the vehicle. All hose assemblies include detachable type hose connectors.

b. Operating Tests. If any evidence is found indicating that a hose line is restricted, it should be removed and air blown through it in both directions to be sure the hose passage is clear and not obstructed in any way.

c. Leakage Tests. With brakes applied, to be sure the hose line being tested is under air pressure, coat the outside of the hose and hose connectors with soap suds to check for leakage. No leakage is permissible. Leakage at the connectors can sometimes be corrected by tightening the connector nut. If this fails to correct the leakage, the connectors, or hose, or both should be replaced.

d. Replacement. Remove connector nut and pull hose out of connector body. Do not attempt to remove used sleeve from hose. Cut a new piece of hose to required length, being sure the cut is made at right angles to the outside wall of the hose, and that the end of the hose is smooth. Blow out hose with an air line to remove all cuttings. Position connector nut and sleeve on hose being sure the barbs on the inside of the sleeve point toward the end of the hose. Position new gasket over the end of the guide in the connector body so the side with the removable protector will be next to the hose. Remove the protector covering from the gasket. Put the end of the hose in the connector body making sure the end of the hose and the gasket are against the bottom of the recess in the connector body. Move the sleeve if necessary until it is against the edge of the connector body. Tighten the connector nut sufficiently to insure an air-tight joint.

NOTE: When installing the hose assembly, where both ends are permanently connected, the hose connector at either end may be used as a swivel by loosening the nut on one of the connectors. The hose should then be turned in the loose connector before the connector nut is again tightened. This permits the installation of the hose assembly without the hose being kinked or twisted.

9. Tubing and Tubing Fittings:

a. Tubing and Tubing Fittings: These are used to connect the air brake devices in the air brake system where the use of hose is not necessary.

b. Operating Tests.

(1) If any evidence is found indicating that a tubing line might be restricted, it should be removed and air blown through it in both directions to be sure the passage through the tubing is clear and not obstructed in any way.

(2) Inspect tubing for partial restrictions caused by dents or kinks. Replace tubing having dents or kinks.

c. Leakage Tests. With the air brake system fully charged (governor cut out) and brakes applied, coat all tubing lines and fittings with soap suds to check for leakage. No leakage is permissible. Leakage at a tubing fitting may sometimes

be corrected by tightening the tubing fitting nut. If this fails to correct the leakage, the tubing fitting, the tubing or both should be replaced. If any leakage is found in the tubing, a new piece of tubing should be installed.

d. Replacement. When replacing tubing lines always be sure to use tubing having the same inside and outside diameter as the piece being replaced. Cut tubing to required length with a hack-saw or tubing cutter. As the cut is made, make sure the end of the tubing is smooth and that it is cut squarely with the outside wall and the ends of the tubing are not crimped or partially closed. Ream or file the ends of the tubing if necessary. Blow out tubing with an air line to remove all cuttings and filings. Place nut and sleeve on tubing and put the end of the tubing in the recess in the tubing fitting body. Hold tubing at the bottom of recess and tighten nut to seal joint against leakage. NOTE: Always use a new sleeve when replacing tubing lines. Tubing fitting nuts and bodies may be used again provided they are in serviceable condition.

Controls and Operation

1. Controls.

a. Service Brakes. The service brakes are internal expanding mechanical brakes, operated by the energy of compressed air, which provides the mechanical force necessary to expand the brake shoes, pressing them against the brake drums when brakes are applied. The air brake equipment chiefly consists of air tanks, a relay-emergency valve on trailer, relay valve on dolly, check valve on dolly, brake chambers, slack adjusters, hose couplings on front of trailer and dolly, and miscellaneous parts for connecting these devices.

2. Operation of Vehicle.

a. To connect dolly to trailer pull out king pin lock bar on dolly. Jack front of trailer up until king pin will just clear top of dolly. Back dolly under trailer until king pin is directly over hole in top of dolly, then lower trailer onto dolly, rocking dolly if necessary to permit pin to enter. Push lock bar all the way in and fasten with bolt through handle. Remove pins from sides of drawbar and place them in sockets provided. **CAUTION:** Do not operate dolly with these pins in place when coupled to trailer - these pins are for use only when dolly is uncoupled.

b. Connect lunette of dolly to pintle hook of towing vehicle and fasten safety chains to towing vehicle.

c. Connect the emergency hose from the tractor to the outside emergency line coupling on front of dolly and service hose from tractor to outside service line coupling on front of dolly. Connect from inside service and emergency line couplings on dolly to same couplings on trailer. When used without dolly connect directly from tractor to same couplings on trailer. **NOTE:** The emergency and service lines are properly identified by tags just back of the couplings.

d. Connect electrical circuit of trailer to electrical circuit of truck by inserting one plug of jumper cable into receptacle provided on rear of truck, and the other plug of jumper cable into receptacle located on front of trailer.

e. To uncouple from towing vehicle pull up tightly on hand brake wheel until brakes are set; then detach air and electric lines from towing vehicle. Detach lunette and safety chains.

3. Stopping of Vehicle.

a. The brakes are applied by depressing the brake pedal located in the tractor cab. This will stop tractor and trailer simultaneously. The best possible stop will be made when the first brake application is as hard as the speed and condition of road permit, and then graduated off as the speed is reduced, so that at the end of the stop but little pressure remains in the brake chambers. Never apply the brakes lightly at first and increase the pressure as the speed diminishes. This stop not only requires more time but the final high pressure will produce a severe final stop. Do not fan the brake

pedal as this gives poor brake performance and wastes brake pressure. Fanning does not increase the brake line pressure, but rather decreases both the reservoir and brake line air pressure. The air brake is designed so that when the brake pedal is moved to the limit of its stroke, an emergency application results which will stop the vehicle in the shortest possible time. This application should be made in an emergency and not employed in ordinary braking services.

U V

Parts Numbers Listed are
Manufacturers' Numbers

SPARE PARTS LIST

Part No.	Quantity Per Unit	Description	Manufacturer
<u>AXLE, WHEEL AND BRAKE PARTS</u>			
SD-1352-W-60	2	Walking Beam Ass'y. Less Axles	Dorsey
SD-1365-1	4	Trunnion Beam Ass'y. w/spindle Nuts & Washers and Walking Beam Bushings	Std. Forge
STA-1005	12	Trunnion Walking Beam Bushing	Std. Forge
UB-3029	8	Bushing for Cam Shaft in Trunnion Beam	Std. Forge
UB-2204-2	8	Cam Shaft	Std. Forge
SD-1145-1	4	Walking Beam Spindle Nut w/cotter	Std. Forge
SD-1451	4	Thrust Washer for Walking Beam	Std. Forge
SD-1452	12	Spacing Washer	Std. Forge
STA-1008 R	2	Trunnion Mounting Bracket, Inside	Std. Forge
STA-1008 F	2	Trunnion Mounting Bracket, Outside	Std. Forge
STA-1005	8	Trunnion Mounting Bracket, Bushing	Std. Forge
A-150039	8	Grease Retainer Ass'y.	Std. Forge
553X	8	Bearing Cup, Outer	Timken
560	8	Bearing Cone, Outer	Timken
653	8	Bearing Cup, Inner	Timken
663	8	Bearing Cone, Inner	Timken
A-150032B	8	Spindle Nut, Inner	Std. Forge
A-150034	8	Spindle Nut Lock	Std. Forge
A-150033	8	Spindle Nut Outer	Std. Forge
A-150014	8	Hub Cap	Std. Forge
UB-2003-1	8	Brake Spider	Std. Forge
UB-2202-1	16	Brake Shoe Only, $12\frac{1}{4} \times 5\frac{1}{2}$	Std. Forge
UB-2201-1	16	Brake Lining Only, $12\frac{1}{4} \times 5\frac{1}{2}$	Std. Forge
6414		Brake Lining Rivet	Std. Forge
UB-2209	16	Brake Shoe Wear Plate	Std. Forge

Part No.	Quantity Per Unit	Description	Manufacturer
6802	16	Wear Plate Screw	Std. Forge
UB-3003	16	Anchor Pin	Std. Forge
UB-2208	8	Anchor Pin Link	Std. Forge
UB-2206	16	Anchor Pin Washer	Std. Forge
UB-2212	16	Brake Shoe Bushing	Std. Forge
UB-2205	16	Brake Retract Spring	Std. Forge
UB-2218	16	Brake Shoe Complete w/Linings, Bushings & Wear Plates	Std. Forge
UB-2200-55 R&L	8	Brake Ass'y. Complete - 12 $\frac{1}{4}$ x 5 $\frac{1}{2}$ "	Std. Forge
6760	8	Dayton Wheel - No. R6760	Dayton Steel
6760-A2	8	Dayton Wheel No. R6760 w/Drum	Dayton Steel
C-12358	8	Dayton Brake Drum for 12 $\frac{1}{4}$ x 5 $\frac{1}{2}$ " Brakes	Dayton Steel
15x40	8	4" Spacer Ring	Firestone
1312	16	15 x 6.0 Rim Ass'y.	Firestone
<u>AIR BRAKE PARTS</u>			
222894	1	RE-1 Relay Emergency Valve for Trailer	Bendix-West.
222941	2	Air Reservoir - 9 $\frac{1}{2}$ " x 27"	Bendix-West.
223053	1	R-1 Relay Valve for Dolly	Bendix-West.
222256	6	Air Chambers, Type "G"	Bendix-West.
220824	2	Coupling Hose Ass'y. - Tractor to Dolly	Bendix-West.
215590	2	Coupling Hose Ass'y. - Dolly to Trailer	Bendix-West.
220165	6	Hose Coupling	Bendix-West.
215540	12	Hose Connectors, 1/4"	Bendix-West.
205730	6	Clamping Studs	Bendix-West.
205053	7	Tubing Connector, 3/8"	Bendix-West.
220306	1	Check Valve	Bendix-West.
217050	2	Tubing Tee	Bendix-West.

<u>Part No.</u>	<u>Quantity Per Unit</u>	<u>Description</u>	<u>Manufacturer</u>
205102	1	Elbow	Bendix-West.
217525	8	Tubing Connector	Bendix-West.
230513	12 ft.	1/2" Copper Tubing	Bendix-West.
230523	70 ft.	3/8" Copper Tubing	Bendix-West.
21076E	2	Frame Tee	Bendix-West.
BW-101-M	18 ft.	3/8" Air Hose	Bendix-West.
<u>HAND BRAKE PARTS</u>			
45205 R&L	4	Lever, Chamber to Brake Rod R & L	Dorsey
45210	1	Hand Brake Wheel	Dorsey
45211	1	Hand Brake Ratchet	Dorsey
45212	1	Hand Brake Pawl	Dorsey
45206	1	Hand Brake Wheel Shaft	Dorsey
53048		Steel Cable - 3/8"	Jones & Laughlin
45208	4	Brake Rods - Front Rear Brakes	Dorsey
45209	2	Brake Connecting Rod	Dorsey
<u>LIGHTS, REFLECTORS & WIRING</u>			
333R	6	Reflector, Red	K-D
333A	4	Reflector, Amber	K-D
08789-YSR	2	Service Clearance Lamp, Red	K-D
08789-YSA	2	Service Clearance Lamp, Amber	K-D
08789-YBR	2	B.O. Clearance Lamp, Red	K-D
08789-YBB	2	B.O. Clearance Lamp, Blue	K-D
08242-X	1	Combination Service Tail, Stop & B.O. Stop	K-D
08243-X	1	B.O. Tail & Stop	K-D
08671-W	1	Blackout Switch	H.A. Douglas

<u>Part No.</u>	<u>Quantity Per Unit</u>	<u>Description</u>	<u>Manufacturer</u>
07950-X	1	Coupling Socket w/Cover	Warner Elect.
7071420	1	Light Connecting Cable Assembly	Warner Elect.
08242-XL	1	Lens & Cover Assembly, Service Tail, Stop & B.O. Tail	K-D
08243-XL	1	Lens & Cover Assembly, B.O. Tail & Stop	K-D
<u>MISCELLANEOUS PARTS</u>			
1281		Lashing Ring	Std. Forge
1221		Lashing Ring Clip	Dorsey
KP-60		King Pin	Dorsey
<u>DOLLY FOR 60 TON TRAILER</u>			
<u>AXLE, BRAKE & WHEEL PARTS</u>			
SD-1498-1A	2	Trunnion, Beam & Axle Bar Ass'y.	Std. Forge
A-150032-B	4	Axle Nut, Inner	Std. Forge
A-150033	4	Axle Nut, Outer	Std. Forge
A-150034	4	Axle Lock Washer	Std. Forge
A-18004	4	Grease Retainer	Std. Forge
759	4	Bearing Cone, Inner	Timken
752	4	Bearing Cup, Inner	Timken
740	4	Bearing Conc, Outer	Timken
742	4	Bearing Cup, Outer	Timken
STA-1010	4	Trunnion Mounting Bracket	Std. Forge
STA-1005	8	Trunnion Mounting Bracket Bushing	Std. Forge
A-2500-1	4	Hub	Std. Forge
13988	20	Hub Stud R. H.	Std. Forge
13989	20	Hub Stud L. H.	Std. Forge
6307	40	Hub Stud Nut	Std. Forge
10708	20	Lug Nut, Inner R. H.	Budd
10709	20	Lug Nut, Inner L. H.	Budd

Part No.	Quantity Per Unit	Description	Manufacturer
37891	20	Lug Nut, Outer K. H.	Budd
37892	20	Lug Nut, Outer L. H.	Budd
A-25009	4	Hub Cap	Std. Forge
6215	28	Hub Cap Bolt	Std. Forge
6503	28	Hub Cap Lock Washer	Std. Forge
UB-1087-5	4	Brake Drum	Std. Forge
UB-1089	4	Grease Sling	Std. Forge
TA-1006	4	Cam Shaft Bracket Bushing	Std. Forge
UB-1000-R6A	2	Brake Ass'y., 16½ x 6" R. H.	Std. Forge
UB-1000-L6A	2	Brake Ass'y., 16½ x 6" L.H.	Std. Forge
6114	64	Brake Mounting Bolt	Std. Forge
6304	64	Brake Mounting Bolt Nut	Std. Forge
220941	4	Slack Adjusters	Bendix-West.
UB-5006-35-R	2	Cam Shaft, R. H.	Std. Forge
UB-5006-35-L	2	Cam Shaft, L. H.	Std. Forge
UB-5001-A	4	Brake Spider	Std. Forge
UB-1046-2	16	Brake Lining, 16½ x 6" x 3/4"	Std. Forge
6808		Brake Lining Bolt	Std. Forge
6502		Lock Washer	Std. Forge
6301		Lining Bolt Nut	Std. Forge
UB-1056-2	8	Brake Shoe Only, 16½ x 6"	Std. Forge
UB-5009	8	Brake Roller Shaft	Std. Forge
UB-1006-1	8	Brake Cam Roller	Std. Forge
6801	8	Roller Shaft Set Screw	Std. Forge
UB-1021	4	Brake Retract Spring	Std. Forge
UB-1008-1	8	Brake Anchor Pin	Std. Forge
UB-1024	16	Brake Shoe Bushing	Std. Forge

<u>Part No.</u>	<u>Quantity Per Unit</u>	<u>Description</u>	<u>Manufacturer</u>
6213	8	Anchor Pin Set Screw	Std. Forge
UB-1055	4	Set Screw Lock Wire	Std. Forge
UB-1012	16	Anchor Pin Felt	Std. Forge
UB-1004	16	Anchor Pin Retainer Washer	Std. Forge
UB-1013	16	Anchor Pin Lock	Std. Forge
UB-1025	4	Dust Shield	Std. Forge
6212	24	Dust Shield Bolt	Std. Forge
6501	24	Lock Washer	Std. Forge
UB-1063	8	Brake Shoe Assembly w/Lining & Bushings	Std. Forge
59300	8	Wheel, 20 x 7.33 - 10 Stud	Budd
<u>MISCELLANEOUS PARTS DOLLY FOR 60 TON TRAILER</u>			
700 GP	2	Drawbar Bushing	Johnson Bronze Co.
45203	2	Drawbar Hinge Pin	Dorsey
45204	1	Swivel Plate	Dorsey
45213	2	Safety Chain - 3/4" x 9' w/One Hook	Western Chain



TM 5-9207/T0 19-75 AB-44 TRAILER, FULL, LOWBED, 60-TON, DORSEY MODEL MT-60W-1952