ORD 9 SNL G-754

DEPARTMENT OF THE ARMY SUPPLY MANUAL

GROUP G

LIST OF ALL SERVICE PARTS

OF

CHASSIS, TRAILER, 1½-TON, 2-WHEEL, M103A1;
TRAILER, CARGO, 1½-TON, 2-WHEEL, M104, M104A1, M105A1;
TRAILER, TANK, WATER, 1½-TON, 2-WHEEL, 400-GAL,
M106, M106A1, M107A1

Supersedes ORD 9 SNL G-754, 18 July 1952

*ORD 9 SNL G-754

 DEPARTMENT OF THE ARMY WASHINGTON 25, D. C., 27 December 1954

CHASSIS, TRAILER, 1½-TON, 2-WHEEL, M103A1; TRAILER, CARGO, 1½-TON, 2-WHEEL, M104, M104A1, M105A1;

TRAILER, TANK, WATER, 11/2-TON, 2-WHEEL, 400-GAL, M106, M106A1, M107A1

	Page
INTRODUCTION	2
NOTES	8
GROUP 06 ELECTRICAL SYSTEM	19
GROUP 11 AXLE	31
GROUP 12 BRAKES	
GROUP 13 WHEELS, HUBS, AND DRUMS	
GROUP 15 FRAME AND BRACKETS	
GROUP 16 SPRINGS	69
GROUP 17 FENDERS	72
GROUP 18 CARGO BODY AND WATER TANK	74
GROUP 22 MISCELLANEOUS BODY AND CHASSIS ACCESSORIES	103
ALPHABETICAL INDEX	114
ORDNANCE AND MANUFACTURERS' PART NUMBER INDEX	
ORDNANCE STOCK NUMBER INDEX	126
FEDERAL STOCK NUMBER INDEX	128

MAJOR ITEM

The items listed below are stored, issued, and reviewed under ORD 3 SNL G-1. These items are nonexpendable.

Chassis, trailer, 1½-ton, 2-wheel, M103A1;

Trailer, cargo, 1½-ton, 2-wheel, M104, M104A1, M105A1;

Trailer, tank, water, 1½-ton, 2-wheel, 400-Gal, M106, M106A1, M107A1

^{*}This manual supersedes ORD 9 SNL G-754, 18 July 1952.

INTRODUCTION

1. GENERAL. a. This is a list of items of the 1½-ton 2-wheel chassis trailer M103A1; 1½-ton 2-wheel cargo trailers M104, M104A1, M105A1; 1½-ton 2-wheel 400-gal water tank trailers M106, M106A1, M107A1 arranged according to standard government grouping.

Note: Many of the parts listed herein are not stocked for issue. See ORD 7-8 section of this manual for listings of those parts stocked and authorized for issue to the various levels of maintenance. When parts not listed in the ORD 8 are needed, separate requisition for these parts should be forwarded through normal supply channels with justification therefor.

- b. This list of all service parts is to be used for identification and storage purposes. Every individual part is not necessarily stored by itself; many parts are stored as authorized assemblies. Such assemblies are indicated herein. The components of such assemblies are listed alphabetically within the group, with the total quantity of each part required for that particular application.
- c. The Federal Stock Number column lists the 11-digit Federal Stock Number (or the 7-digit Federal Item Identification Number) which has been assigned by the Cataloging Division, OASD (S&L). These numbers are for information only and will not be used in connection with supply operations until such time as implementation of the Federal Cataloging Program is accomplished through editing action on appropriate supply documents (requisitions, issue slips, excess lists, etc).
- d. Classification codes for Federal Standard Stock Catalog Numbers listed herein will be found in the ORD 5-2 series.
- e. Prices of items contained herein are listed in the ORD 5-3 series.
- f. Additional application of items listed in this manual are listed in the ORD 5-5 series.
- g. An explanation of reference symbols used throughout this manual is included under heading "NOTES".
- h. If stock numbers in this list do not correspond in ORD 7-8, the numbers in publication of later effective date will govern.
- i. For full information relative to the Ordnance Section of the Department of the Army Supply Manual, including the purposes and uses thereof, the procedure followed, and the principles employed in its compilation, see ORD 1, and SR 320-5-1.

- 2. MAJOR ITEM DESIGNATION. The major items covered in this manual, as defined in AR 700-105, are designated as follows:
 - 1½-ton 2-wheel chassis trailer M103A1 is designated as a general purpose vehicle.
 - 1½-ton 2-wheel cargo trailers M104, M104A1, and M105A1 are designated as general purpose vehicles.
 - 1½-ton 2-wheel 400-gal water tank trailers M106, M106A1, and M107A1 are designated as special equipment vehicles.
- 3. PUBLICATIONS PERTAINING TO THESE VEHICLES. The following technical manuals pertain to these vehicles and components thereof: TM 9-8226(9-875B); TM 9-1827A, and TM 9-1827C.
- 4. SERIAL NUMBER LOCATIONS. Serial numbers are located on the right side of the vehicles directly behind the lunette.
- 5. ILLUSTRATIONS. This manual contains various illustrations to aid the user in locating and identifying parts. These are placed before each group for convenient reference in connection with the text for that group. For each part identified on an illustration, the noun, part number, and group number of the item are given. The prefix to the figure number indicates the group, the suffix indicates the sequence number within that group (ie, figure 06–1 signifies illustration number 1 for group 06).
- 6. COMPONENTS OF ASSEMBLIES. Whenever any doubt might exist as to what items are included as components of assemblies, an explanatory note or complete listing of such components is shown.
- 7. ATTACHING PARTS. Attaching parts such as bolts, nuts, rivets, washers, etc, are indented under the item which they attach. Whenever two or more similar items having the same attaching parts, such as *left* and *right* levers, are listed, they are placed one immediately following the other and the attaching parts for *both* are covered by a single listing under the second item.
- 8. DEFINITION OF LOCATIONAL TERMS. The lunette or towing attachment is considered the front and the area in which both

tail lights are visible is the rear. The right and left sides are determined by standing at the rear looking towards the lunette, with one exception. Left and right when referring to cargo racks are determined by facing each gate or rack when mounted in position on the trailer.

- 9. DESCRIPTION. All items are listed with their complete nomenclature with the exception noted in a. below:
- a. Items appearing within a subgroup that lists components of, and/or items related to only one assembly or subassembly, automatically assume as part of their official nomenclature the title of the pertinent subgroup. (Example: "CUP, piston" is an entry in subgroup 1204.3. The complete nomenclature of the item is "CUP, piston, wheel cylinder," "WHEEL CYLINDERS" being the subgroup title.)
- b. Items appearing within a subgroup that lists more than one assembly or more than one group of related items are listed with their complete nomenclature. (Example: "PIN, locking, support leg" is an entry in subgroup 1507. The complete nomenclature of the item is as shown, the title of the subgroup being, "FRONT CASTER, MOUNTING BRACKET, AND SUPPORT LEG.")
- 10. QUANTITY INCORPORATED IN UNIT. The Quantity Incorporated in Unit column lists quantities for the following:
- a. For vehicle parts which are not indented, the quantity indicates the number of those parts required for the particular use indicated. These quantities do *not* indicate the total quantities of the parts required for the Major Item since the part may be used in more than one subgroup.
- b. For vehicle parts which are indented (attaching parts), the quantity indicates the number of these parts required to attach the item. These quantities do not indicate the total quantities of the attaching parts required for the Major Item or subgroup, since the attaching parts may be used in more than one subgroup, and may also be used more than once within a subgroup.
 - 11. DIFFERENCES BETWEEN MODELS
 - a. Electrical system.
- (1) Models M104 and M106. Intervehicular cable with male and female plugs is detachable from chassis cable harness. Chassis cable harness

has a receptacle at the front of the trailer and male connectors that are joined to female connectors on light cables at rear of trailer.

- (2) Models M103A1, M104A1, M105A1, M106A1, and M107A1. Intervehicular cable with male plug and male connectors is permanently attached to the chassis cable harness. Chassis cable harness has female connectors that are joined to the intervehicular cable assembly at front of the trailer and male connectors that are joined to female connectors on light cables at the rear of the trailer.
- b. Axle. There is a difference in the design of the spring seat welded to the axle used on these trailers. Axles are interchangeable, varying in construction but not in essential measurements.
 - c. Hand brakes.
- (1) Models M104, M106, M106A1, and M107A1 (refer to paragraph (3) below). Hand levers for the hand brakes are mounted at the rear of the trailer. Parts are not interchangeable with the hand brakes on models listed in paragraph (2) below.
- (2) Models M103A1, M104A1, M105A1, and M107A1 (refer to paragraph (3) below). Hand levers for the brakes are mounted at the front of the trailer. Parts are not interchangeable with the hand brakes on models listed in paragraph (1) above.
- (3) Model M107A1. Model ·M107A1 with serial numbers 239176 through 239182, 239280 through 240698, and 287711 through 287749 have the hand levers for the hand brakes (refer to paragraph (1) above) located at the rear of the trailer. Model M107A1 with serial numbers 254476 through 254536, 254539 through 255370, 282172 through 287703, 287833 through 287834, 292844 through 293885, and 293910 through 294870 have the hand levers for the hand brakes (refer to paragraph (2) above) located at the front of the trailer.
- d. Wheel brake mechanism. All parts are identical and interchangeable on all models, and adaptable to models with the hand levers for hand brakes located either in the front or the rear of the vehicle.
- (1) Models M104, M106, M106A1, and M107A1 (refer to paragraph c (3) above). Wheel

brake mechanism has the internal lever toward the front of the vehicle.

- (2) Models M103A1, M104A1, M105A1, and M107A1 (refer to paragraph c (3) above). Wheel brake mechanism has the internal lever toward the rear of the vehicle.
- e. Wheel cylinder. Wheel cylinders are identical on all models.
- (1) Models M104 and M106. Wheel cylinder is directly over the axle.
- (2) Models M103A1, M104A1, M105A1, M106A1, and M107A1. Wheel cylinder is tipped 15 degrees to the rear of the vehicle and over the axle.

f. Air brake system.

- (1) Models M104 and M106. Early M104 and M106 models were equipped with emergency brake features. Models with serial numbers AV193033 through AV193034, AV200000 through AV231969 AV218537, through AV232306, AV232308 through AV232504, AV232506 through AV232574, AV232576 through AV233050, AV233064 through AV233224 have the following parts in addition to standard equipment listed in paragraph (2) below: relay-emergency valve, air reservoir, two dummy couplings, air emergency line tube, one air brake hose coupling (tagged emergency), two intervehicular air hose (air brake hose coupling on each end), two air brake hose connectors, two air brake hose coupling to air filter connections, air filter, and additional required hose, tubing, fittings, clips, and attaching parts.
- (2) All models. All models, with the exception of those listed in paragraph (1) above, carry as standard equipment the following parts: one air service line tube, air brake hose coupling air filter, air brake hose connector, and additional required hose, tubing, fittings, clips, and attaching parts.

g. Wheels and tires.

- (1) Models M104, M104A1, M106, and M106A1. Offset of each wheel is $5\frac{1}{8}$ inches. Tires, tubes, and flaps carried on these models are 9.00-20. Bead clips are used.
- (2) Models M103A1, M105A1, and M107A1. Offset of each wheel is 6½ inches. Tires, tubes, and

flaps carried on these models are 11.00-20. Bead clips are not used.

h. Chassis frame.

- (1) Models M104 and M106. Chassis frame side rails are reinforced by seven cross members and two gussets, all welded into a single unit. A bracket is welded to the rear cross member for mounting the support leg.
- (2) Models M103A1, M104A1, M105A1, M106A1, and M107A1. Chassis frame side rails are reinforced by six cross members and two gussets, all welded into a single unit. Chassis frame is heavier and stronger than the frame used on models M104 and M106 (refer to paragraph (1) above). Holes in the frame for mounting the cargo body or water tank frame vary among the different models.
- i. Lunette. The lunette and attaching parts are identical on all models.
- (1) Models M104 and M106. The lunette is mounted into the boss welded to the nose of the chassis frame.
- (2) Models M103A1, M104A1, M105A1, M106A1, and M107A1. The lunette is mounted into a casting welded to the nose of the chassis frame.
- j. Front caster. Front caster on models M104 and M106 is not interchangeable with front caster on models M103A1, M104A1, M105A1, M106A1, and M107A1. Caster wheel with bearings is interchangeable among all models.
- k. Support leg. The support leg is standard equipment only on models M104 and M106.
- l. Water tank, fenders, and extensions. There is a minor difference in design of the tank, fenders, and extensions used on model M106 and corresponding parts used on models M106A1 and M107A1. Parts, varying in construction but not in essential measurements, are interchangeable.
- (1) Model M106. The water tank is mounted on the tank frame with 12 hex-head bolts and nuts.
- (2) Models M106A1 and M107A1. The water tank is mounted on the tank frame with eight hex-head bolts, nuts, snubbing washers, and rubber sandwich mountings.

- m. Cargo body. The cargo body on trailer models M104A1 and M105A1 is essentially the same in design and general dimensions as the cargo body on trailer model M104.
- (1) Model M104. The cargo body is either welded or attached to the chassis frame with 12 hex-head bolts, lock washers, and nuts.
- (2) Models M104A1 and M105A1. The front of the cargo body is mounted on the chassis frame with two "U" shaped brackets, using four hexhead bolts, flat washers, springs, and lock nuts. Four brackets, two on each side, are welded to the cargo body and are secured to the chassis frame with 12 hex-head bolts and lock nuts.

n. Tail gates.

- (1) Model M104. The front and rear tail gates are hinged at the floor line of the cargo body and retained by tail gate chains.
- (2) Models M104A1 and M105A1. The front tail gate found on model M104 (refer to paragraph (1) above) has been eliminated on models M104A1 and M105A1 and replaced by a panel welded to the cargo body. The rear tail gate is retained by tail gate chains of a different design than those used on model M104 (refer to paragraph (1) above).

o. Racks and rack gates.

- (1) Model M104. There are two rack gates at the front and two rack gates at the rear of the trailer retained by locking brackets and hinges. Side racks are retained by 10 hex-head bolts, lock washers, and nuts to the body posts of the cargo body.
- (2) Models M104A1 and M105A1. Racks are located at the front and rear of the trailer. All racks are lift-out type. Side racks are fitted into the cargo body and front and rear racks are fitted into the end stakes of the side racks, eliminating need for locking brackets, hinges, and attaching parts. Stowage brackets for front and rear racks are welded to the cargo body. Racks are heavier than on model M104 (refer to paragraph (1) above) because of an increase in size of the slats.

p. Water tank frame.

(1) Model M106. Water tank frame side rails are reinforced by four cross members, all welded into a single unit. Wood slats are located at the

front of the frame and form a flooring for the bell strainer with hose.

- (2) Models M106A1 and M107A1. Water tank frame side rails are reinforced by two cross members, all welded into a single unit. Model M106A1 and M107A1 frames are shorter than model M106 frame (refer to paragraph (1) above).
- q. Piping cover plate. Piping cover plate and attaching parts, between faucet boxes, located ahead of the water tank at the front of the trailer, are found only on models M106A1 and M107A1.
- r. Faucet boxes. The faucet boxes with frames on Model M106 are different in design than the faucet boxes with frames on Models M106A1 and M107A1.
- (1) *Model M106*. The faucet box cover catch is riveted to the front of the box cover.
- (2) Models M106A1 and M107A1. The faucet box cover locks are located at each side of box cover and attached with a pin, spacer, and flat washer.
- s. Paulin. There are minor differences between the paulin used on model M104 and the paulin used on models M104A1 and M105A1. Paulins are interchangeable.

t. Roof bows.

- (1) Model M104. Roof bows are 5 feet $5\frac{1}{8}$ inches long.
- (2) Models M104A1 and M105A1. Roof bows are 5 feet $5\frac{3}{8}$ inches long.

u. Reflectors.

- (1) Models M104 and M106. Two ruby reflectors are located at the rear of the trailer in addition to the one on the left side and one on the right side toward the rear of the trailer. Two amber reflectors, one on each side, are located toward the front of the trailer.
- (2) Models M103A1, M104A1, M105A1, M106A1, and M107A1. Two ruby reflectors are located at the rear of the trailer.
- v. Water pump, bell strainer, and water inlet pipe. Water pump, bell strainer with hose, tiedown straps for hose, water inlet pipe connecting pump to filler pipe welded on top of tank, and all attaching parts are found only on model M106.

- w. Piping and mud guards. There are minor differences between the water tank piping and the mud guards which position the piping in the faucet boxes on model M106 from those carried on models M106A1 and M107A1. All parts are interchangeable.
- x. Manifold valve. The handle of the manifold valve is different in design on model M106 than the handle of the manifold valve on models M106A1 and M107A1. These two manifold valve handles are not interchangeable, but the other parts of the valve are.
- 12. HOW TO FIND PARTS. This manual is arranged and cross-indexed so that parts can be found easily even though only one of the several identifying factors is known. The various ways in which parts can be located are as follows:
- a. If only the nomenclature (basic noun-name) is known, refer to the alphabetical index in the back of the manual. This index will give the subgroup in which the part is listed. As the part names are arranged in alphabetical order within this subgroup, the complete listing of the part can readily be found.
- b. If any one of the numbers—Ordnance stock, Federal stock, Manufacturers', or Ordnance part,—is known, refer to the appropriate numerical index in the back of the manual. These indexes will give the subgroup number in which the part can be found by following the procedure given in a. above.
- c. If the shape, use, function, or location of the part is known, refer to illustrations in which the part is likely to appear until a picture of the part is found. The part will be keyed to a listing of the name, part number, and subgroup number, which will permit locating the complete listing of the part.
- 13. STOCK NUMBERS. The prefix letter and number (ie, G508, G742, G782, etc) usually signifies that the particular part or component was originally coded under the major item designation for that SNL and does *not* mean that the part is used *only* in that major item. All subsequent manuals for different vehicles will include the same stock number for this same part.
- 14. STANDARD GOVERNMENT GROUP-ING. The parts listed in this manual are arranged by groups and subgroups and alphabetically

within these subgroups. Parts are grouped primarily on the basis of their function rather than location. This arrangement facilitates identification and selection of parts. Refer to paragraph 12, "HOW TO FIND PARTS."

06-ELECTRICAL SYSTEM

0609.1	Tail Lights, Lamps, and Lamp-Units
0613.1	Chassis Cable Harness
0617	Trailer Couplings (Electric)

11-AXLE

1100 Axle Assembly

12-BRAKES

1209.3

1201	Hand Brakes
1202	Service Brakes
1204.3	Wheel Cylinders
1204.5	Hydraulic System-Fittings, Tubes, and Clip
1205.5	Air Hydraulic Cylinder (Air Chamber- Master Hydraulic Cylinder)
1208.1	Air System-Fittings, Tubes, and Clips (M104, M106 only)
1208.3	Relay-Emergency Valve

13-WHEELS, HUBS, AND DRUMS

1311	Wheel Assemblies, Studs, Nuts, Wheel
	Rings, Cups and Cones (Bearings),
	Seals, Hubs, and Drums

Air Reservoir (M104, M106 only)

1313 Tires, Tubes, and Bead Clips

15-FRAME AND BRACKETS

1501	Frame Assembly, Brackets, and Hangers
1503	Safety Chains and Lunette
1507	Front Caster, Mounting Bracket, and Sup-
	port Leg

16-SPRINGS

1601.3	Main Springs and Shackles
1602	Auxiliary Springs

17-FENDERS

1701 Water Tank Fenders and Extensions

18-CARGO BODY AND WATER TANK

1810 Cargo Body 1811 Water Tank Body

22-MISCELLANEOUS BODY AND CHASSIS ACCES-SORIES

Paulin and Roof Bows
Reflectors
Hand Water Pump (M106 only)
Bell Strainer and Hose (M106 only)
Water Faucets
Vehicular Data Plates

15. LIST OF ABBREVIATIONS. The following is a list of abbreviations appearing in this manual:

al	aluminum
amp	ampere
	American Standard

assy	assembly
AWG	American Wire Gage
b-hd	button-head
br	brass
	bronze
	candelabra bayonet base
	cadmium-plated
	cast iron
	countersunk
	cold-finished steel
	conductor
	continued
	copper
	corrosion resistant steel
	double
	degree (angle)
	developed length
	diameter drill rod
	each
	electric, electrician, or electrical
	fastener
	filament(s)
	fillister-head
	finish
	flexible
	flat-head
	fluted-taper-point
	foot
	gage
	galvanized iron
	galvanized
	grade
	ground
	head
hdl	handle or handled
	headless
hex	hexagonal
	hexagon-head
	heat resistant steel
	heavy
hyd	hydraulic
	inside diameter
	inch(es)
	incandescent
	insulated
	Joint Army Navy
	joint
	pound(s)
	length
	left hand
LII	light (weight)
	lubricator, lubricating or lubrication
	model
	machine
	maximum
	medium
	malleable iron
	minimum
	mounting
NC	National Coarse Thread
NF	National Fine Thread

N T	. •
	number
	National Straight Pipe Thread
	National Taper Pipe Thread
	ational Form Thread, Special Pitch
OD	outside diameter
ol-db	olive-drab
OASD (S&L)	Office of
Assistant Secretary	of Defense (Supply and Logistics)
ORD	ordnance
	ounce(s)
	pan-head
	phosphor-bronze
	phosphate coated
	plain finish
	pounds per square inch
	point
=	-
	round
	round-head
	regular
	retaining
	right hand
	rubber
	steel
	Society of Automotive Engineers
	semifinished
	single
sgle-cond	single conductor
sgle-tun-fil	single-tungsten-filament
sh-met	sheet-metal
sh-met-thd	sheet-metal-thread
spec	specification
sp-hd	special head
	square-neck
-	square yard
• •	straight
_	stock
	synthetic rubber
	thread or threaded
	thick
	thickness
	Technical Manual
univ	
	universal
	volt
	with
	without
	waterproof
X	by, in dimensions only, as 2 x 4
	zinc-plated
14 1100 00 3	EANIED A CONTIDED OF CITAL

16. LIST OF MANUFACTURERS' SYMBOLS. The following is a list of symbols preceding the manufacturers' part numbers appearing in this manual.

Symbol	Manufacturer
BMY	Barnes Mfg Co
BX	Bendix Products Div
CBQ	Central Brass Mfg Co
CCH	The Cleveland Chain & Mfg Co
\mathbf{CE}	Clark Equipment Co
CM	The Chicago Rawhide Mfg Co
CRG	Cherry Rivet Co
CVT	Covert Mfg Co

Symbol	M anufacturer	Symbol	Manufacturer
DM	Douglas Mfg Co	SSS	Standard Steel Spring Co
DST	Detroit Steel Products Co	TCA	Trailmobile, Inc
\mathbf{FF}	Fruehauf Trailer Co	\mathtt{TD}	Timken-Detroit Axle Co
GL	Guide Lamp Div	WAW	Wheaton Brass Works
$\mathbf{G}\mathbf{M}$	General Motors Corp	WH	The Weatherhead Co
HH	Houdaille-Hershey Corp	wo	Willys-Overland Motors, Inc
IL	Industrial Lamp Corp		
LO	Wagner Electric Corp	17. \$	SUGGESTIONS AND RECOMMENDA-
MID	The Midland Steel Products	TIONS	. Notice of discrepancies and recom-
MSP	Midland Steel Products Co		ions should be forwarded through command
RC	Reo Motors, Inc		_
ROZ	Rockford Brass Works		s to the Chief of Ordnance, Department of
SCI	Scintilla Magneto Div		ny, Washington 25, D. C., ATTENTION:
SD	Studebaker Corp	ORDFN	<i>I</i> I-Pub.

NOTES Explanation of Symbols

- ‡ As required.
- H1 Symbols such as H1, etc, refer to the SNL in which the item is reviewed or in which additional applications of the item are listed.

Footnotes

- Refers to M107A1 vehicles with hand levers for the hand brakes mounted at the rear of the trailer. These vehicles have serial numbers 239176 through 239182, 239280 through 240698, 287711 through 287749. All numbers are inclusive.
- 2 Refers to M107A1 vehicles with hand levers for the hand brakes mounted at the front of the trailer. These vehicles have serial numbers 254476 through 254536, 254539 through 255370, 282172 through 287703, 287833 through 287834, 292844 through 293885, 293910 through 294870. All numbers are inclusive.
- Refers to M104 and M106 vehicles with emergency brake features. These vehicles have serial numbers AV193033 through AV193034, AV200000 through AV218537, AV231969 through AV232306, AV232308 through AV232504, AV232506 through AV232574, AV232576 through AV233050, AV233064 through AV233224. All numbers are inclusive.