

TM 5-9218

WAR DEPARTMENT TECHNICAL MANUAL

**SEMI-TRAILER,
LOW BED,
20-TON,
MODEL 20-T,
WITH MODEL 20-TD
DOLLY**



MAINTENANCE INSTRUCTIONS

WAR DEPARTMENT TECHNICAL MANUAL

TM 5-9218

SEMI-TRAILER,
LOW BED,
20-TON,
MODEL 20-T,
WITH MODEL 20-TD
DOLLY

MAINTENANCE INSTRUCTIONS



WAR DEPARTMENT • 25 SEPTEMBER 1944

Washington 25, D. C., 25 Sept. 1944

TM 5-9218, Semitrailer, Low Bed, 20-Ton, Model 20T with Model 20TD Dolly, is published for the information and guidance of all concerned.

[A. G. 300.7 (24 Aug. 44).]

By order of the Secretary of War:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:

J. A. ULIO,
Major General,
The Adjutant General.

DISTRIBUTION:

Armies (10); Corps (10); Dept (10); Def Comd (1); Sv C (10); D (2); IC 5 (6); IC & H 5 (2); IC & H 55 (2); Tech Sv (2) except OC of Engrs (10); Arm & Sv Bd (2) except The Engr Bd (5); Gen & Sp Sv Sch (2) except Engr Sch (10); Div Engrs (2); Dist Engrs (2) except Seattle Dist Engr (4); Engr Dep (2) except Albany (7) and Granite City (25); Engr Sec, ASF Dep (2); PE (Port Engrs) (2); T of Opn (2); Base Comd (2).

IR 5: T/O & E 5-21, 5-251, 5-411, 5-511S.

IBn 5: T/O & E 5-215, 5-115, 5-15, 5-35, 5-75, 5-385, 5-415, 5-525S, 5-555S, 5-535S.

IBn 55: T/O & E 55-225.

IC 5: (6) T/O & E 5-247.

IC 5: (2) T/O & E 5-157, 5-357, 5-567, 5-267, 5-377, 5-52, 5-17, 5-22, 5-76, 5-77, 5-252, 5-387, 5-412, 5-417, 5-47, 5-157, 5-247, 5-367, 5-377, 5-557S, 5-538S, 5-539S, 5-500, Maintenance Team, Type 5, DE.

IC 55: T/O & E 55-227, 55-260.

TABLE OF CONTENTS**PART ONE — INTRODUCTION**

<i>Section</i>	<i>Paragraph</i>		<i>Page Nos.</i>
I		GENERAL	
	1	Scope	1
	2	Records	1
II		DESCRIPTION AND DATA	
	3	Description	3
	4	Data	9
III		TOOLS, EQUIPMENT AND FIRST ECHELON SPARE PARTS	
	5	Tools, Equipment and First Echelon Spare Parts	10
PART TWO — OPERATING INSTRUCTIONS			
IV		OPERATING INSTRUCTIONS	
	6	General	15
	7	Service Upon Receipt of Equipment	15
V		CONTROLS AND OPERATION	
	8	Hand Brake	16
	9	Supports	16
	10	Tire Carrier	17
	11	Pintle Hook	20
	12	Dolly Jumper Hose	20
	13	Draw Bar	21
	14	Safety Chains	23
	15	Brake Jumper Hose and Dummy Couplings	23
	16	Blackout Switch	23
	17	Light Jumper Cable and Socket	24
	18	Fifth Wheel Lock Lever	24
VI		OPERATION UNDER USUAL CONDITIONS	
	19	Coupling Dolly to Towing Vehicle	24
	20	Uncoupling Dolly from Towing Vehicle	25
	21	Coupling Dolly to Semitrailer	25
	22	Uncoupling Dolly from Semitrailer	26
	23	Coupling Tractor-Truck to Semitrailer	26
	24	Uncoupling Tractor-Truck from Semitrailer	27
	25	Transporting from Job to Job	27
	26	Braking	27
	27	General Operation	28
VII		OPERATION UNDER UNUSUAL CONDITIONS	
	28	Climatic and Road Hazards	28
VIII		DEMOLITION TO PREVENT ENEMY USE	
	29	Demolition to Prevent Enemy Use	29

TABLE OF CONTENTS—Continued**PART THREE — MAINTENANCE INSTRUCTIONS**

IX	LUBRICATION	
30	Lubrication Order	30
31	Detailed Lubrication Instructions	31
X	FIRST ECHELON PREVENTIVE MAINTENANCE	
32	Purpose	37
33	Before-Operation Services	38
34	During-Operation Services	39
35	At-Halt Services	39
36	After-Operation Services	39
XI	SECOND ECHELON ORGANIZATIONAL MAINTENANCE	
37	Second Echelon Organizational Maintenance Services	41
XII	TROUBLE SHOOTING	
38	General	46
39	Braking System	46
40	Dolly Suspension	48
41	Dolly Axle	49
42	Rear Trunnion Axle	49
43	Wheels, Hubs and Tires	50
44	Fifth Wheel	50
45	Electrical System	51
XIII	BRAKE SYSTEM	
46	General	52
47	Brake Adjustment	52
48	Brake Chamber	52
49	Relay-Emergency Valve	55
50	Air Filter	58
51	Tubing, Tubing Fittings, and Hose Couplings.....	59
52	Quick Release Valve	63
53	Hose and Hose Fittings	65
54	Drain Cock	66
55	Cut-out Cock	68
56	Exhaust Check Valve	69
XIV	INTERNAL BRAKES	
57	General	70
58	Brake Shoes	71
59	Brake Shoes (Semitrailer equipped with two-piece dust shield)	76
60	Dolly Brake Shoes	76
61	Slack Adjusters	77
62	Cams	78
XV	HAND BRAKE	
63	Hand Brake	80

TABLE OF CONTENTS—Continued

XVI	DRAW BAR	
64	Draw Bar	84
XVII	DOLLY UNDERCONSTRUCTION	
65	Axle	85
66	Auxiliary Springs	86
67	Main Spring	86
68	Radius Rod	88
XVIII	SEMITRAILER UNDERCONSTRUCTION	
69	Trunnion Axle	89
XIX	WHEELS, DRUMS, RIMS AND TIRES	
70	General	90
71	Wheel and Tire Assembly—Dolly	90
72	Wheel Bearing Adjustment—Dolly	93
73	Wheel and Drum Assembly—Dolly	93
74	Wheel and Tire Assembly—Semitrailer	94
75	Wheel Bearing Adjustment—Semitrailer	95
76	Wheel and Drum Assembly—Semitrailer	95
77	Felt Grease Retainer—Semitrailer	95
78	Tire and Rim	95
79	Drums	99
80	Cups	101
XX	ELECTRICAL SYSTEM	
81	General	104
82	Wiring	109
83	Tail Light	110
84	Clearance Lights	110
85	Jumper Cable	111
86	Coupling Socket	113
87	Blackout Switch	113
88	Fuse Panel	114
XXI	FIFTH WHEEL	
89	Fifth Wheel	115
XXII	PINTLE HOOK	
90	Pintle Hook	117
PART FOUR — AUXILIARY EQUIPMENT		
PART FIVE — REPAIR INSTRUCTIONS		
XXIII	GENERAL	
91	Scope	119
XXIV	BRAKE SYSTEM	
92	Relay-Emergency Valve	119
93	Slack Adjuster	122

TABLE OF CONTENTS—Continued

XXV	INTERNAL BRAKE ASSEMBLY	
94	Internal Brake Assembly	123
95	Disassembly of Internal Brake into Sub-Assemblies	123
96	Brake Shoes	123
97	Spider	127
98	Assembly of Sub-Assemblies	127
99	Fits and Tolerances	129
XXVI	DOLLY UNDERCONSTRUCTION	
100	Dolly Underconstruction	128
101	Disassembly of Dolly Underconstruction into Sub-Assemblies	129
102	Axle	129
103	Main Spring	132
104	Auxiliary Spring	133
105	Radius Rod	133
106	Fits and Tolerances	134
XXVII	SEMITRAILER UNDERCONSTRUCTION	
107	Semitrailer Underconstruction	134
108	Disassembly of Semitrailer Underconstruction into Sub-Assemblies	134
109	Trunnion Axle	134
110	Trunnion Axle Mounting Brackets	136
111	Fits and Tolerances	137
XXVIII	DRAW BAR, FRAME, TIRE CARRIER AND SUPPORT JACKS	
112	Draw Bar	137
113	Frame	139
114	Tire Carrier	139
115	Support Jacks	141
XXIX	SHIPMENT AND STORAGE	
116	General Instructions	142
117	Limited Storage	142
118	Shipment—Loading and Blocking for Rail	143
119	Dead Storage	144
120	Export Shipment	144
121	Publication Reference	144

PART ONE

INTRODUCTION

SECTION I

GENERAL

1. SCOPE.

These instructions are published for the information and guidance of the personnel to whom this equipment is assigned. They contain information on the operation and maintenance of the equipment as well as descriptions of the major units and their functions in relation to the other components of the equipment. They apply only to the 20-Ton Semitrailer which is equipped with a dolly, and are arranged in five parts: Part One—Introduction; Part Two—Operating Instructions; Part Three—Maintenance Instructions; Part Four—Auxiliary Equipment; and Part Five—Repair Instructions.

2. RECORDS.

a. "Maintenance instruction forms and record forms listed and briefly described in the following subparagraphs will be used in the maintenance of this equipment.

b. WD AGO Form No. 6—Duty Roster. This form slightly modified will be used for recording operation and scheduling lubrication and preventive maintenance services at the proper intervals on individual items of equipment.

c. WD AGO Form No. 48—Driver's Trip Ticket and P. M. Service Record. This form will be used by equipment operators for reporting the accomplishment of daily preventive maintenance services and for reporting any deficiencies observed on the equipment during operation.

d. War Department Lubrication Order. This is a maintenance instruction form and is intended to instruct operators and personnel of the using organization as to the proper lubricants to be used and intervals to follow in lubricating individual items of equipment.

e. War Department Preventive Maintenance Services Engineer Equipment. This is a maintenance instruction form and prescribes daily maintenance services to be performed by the operator as well as the weekly and monthly services to be performed by mechanics of the using organization in providing proper maintenance on individual items of equipment.

f. WD AGO Form No. 464—Preventive Maintenance Services and Technical Inspection Work Sheet for Engineers Equipment. This form is used by personnel of the using organization and higher echelons for reporting the results of preventive maintenance services, command, and technical inspections.

g. WD AGO Form No. 7353—Spot Check Inspection Report for All Motor Vehicles. This form may be used as a check list for items to be inspected during spot check inspections in lieu of WD AGO Form No. 464.

h. WD AGO Form No. 478—MWO AND Major Unit Assembly Replacement Record. Major repairs or rebuilding, the replacement of major unit assemblies and the accomplishment of equipment modifications will be recorded on this form.

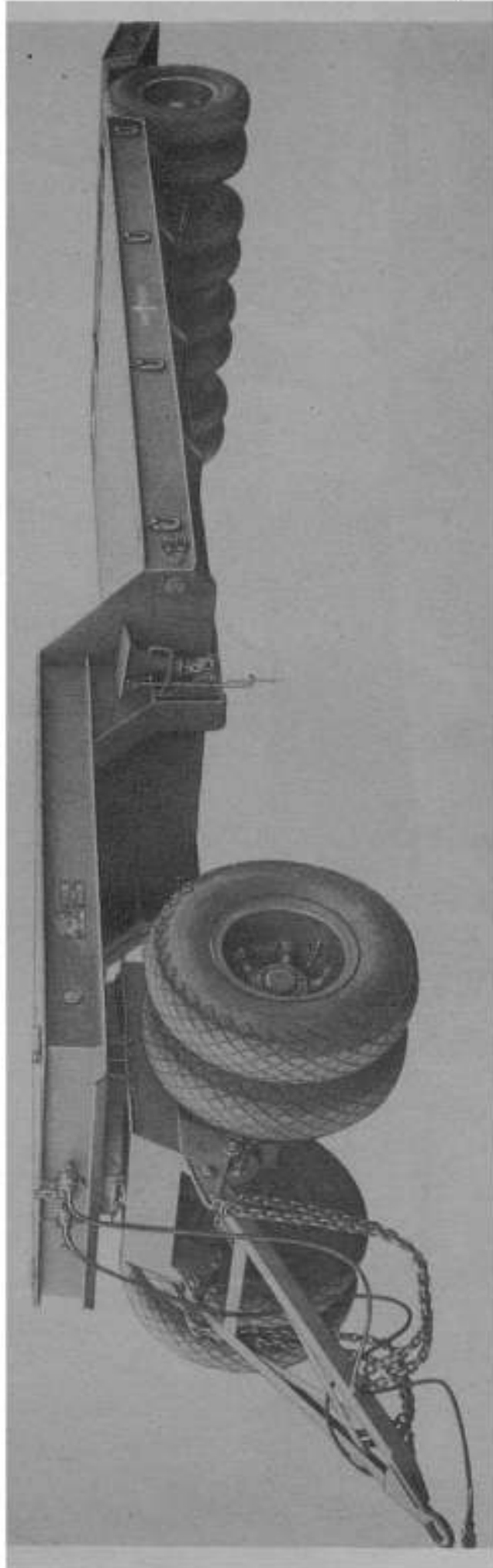


FIGURE 1. SEMITRAILER WITH DOLLY— $\frac{3}{4}$ FRONT VIEW