

ARMY TM 9-2320-366-10-2
AIR FORCE T.O. 36A12-1C-1091-2

**TECHNICAL MANUAL
OPERATOR'S INSTRUCTIONS
M1083 SERIES, 5 TON, 6x6,
MEDIUM TACTICAL VEHICLES (MTV)**

VOLUME NO. 2 OF 2

MODEL	NSN	EIC	
TRK, CAR., MTV, M1083 W/WN W/O WN	2320-01-360-1895 2320-01-354-3386	BT3 BR2	HOW TO USE THIS MANUAL iii
TRK, CAR., MTV, W/MATL HDLG EQPT (MHE) M1084	2320-01-354-3387	BR3	AUXILIARY EQUIPMENT OPERATION 2-690
TRK, CAR., MTV, LWB, M1085 W/WN W/O WN	2320-01-360-1897 2320-01-354-4530	BT5 BR7	EMERGENCY PROCEDURES 2-788
TRK, CAR., MTV, LWB, W/MATL HDLG EQPT (MHE) M1086	2320-01-354-4531	BR8	TROUBLESHOOTING INSTRUCTIONS 3-2
TRK, TRACTOR, MTV, M1088 W/WN W/O WN	2320-01-360-1892 2320-01-355-4332	BTY BTJ	MAINTENANCE PROCEDURES 3-87
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TRK, CAR., MTV, AIR DROP, M1093 W/WN W/O WN	2320-01-360-1896 2320-01-355-3063	BT4 BR9	
TRK, DUMP, MTV, AIR DROP, M1094 W/WN W/O WN	2320-01-360-1894 2320-01-355-3062	BT2 BTK	
TRK, CHAS, MTV, LWB, M1096	2320-01-354-4527	BR6	

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**HEADQUARTERS, DEPARTMENTS OF THE
ARMY AND THE AIR FORCE
15 SEPTEMBER 1998**

CHANGE 1

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NO. 9-2320-366-10-2

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE

TECHNICAL ORDER
NO. 36A12-1C-1091-2

Washington, D.C., 15 September 1998

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M1083 SERIES, 5-TON, 6x6,
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VOLUME NO. 2 OF 2**

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TRK, CAR., MTV, M1083		
W/WN	2320-01-360-1895	BT3
W/O WN	2320-01-354-3386	BR2
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TRK, CAR., MTV, LWB, M1085		
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W/O WN	2320-01-355-3062	BTK
TRK, CHAS, MTV, LWB, M1096	2320-01-354-4527	BR6

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HOW TO USE THIS MANUAL**OVERVIEW**

This Technical Manual (TM) is provided to help you operate and maintain the Medium Tactical Vehicles (MTV). This volume, volume 2, contains the remainder of chapter 2, lubrication, troubleshooting, and maintenance procedures. Volume 2 is divided into the following major sections in order of appearance:

- **WARNING SUMMARY.** Provides a summary of the most important warnings that apply throughout the manual. Read all warnings and cautions before performing any operation, troubleshooting or maintenance procedures.
- **TABLE OF CONTENTS.** Lists the chapters, sections, appendixes, and alphabetical index with page number in order of appearance.

HOW TO USE THIS MANUAL (CONT)

OVERVIEW (CONT)

- **CHAPTER 2, OPERATING INSTRUCTIONS (PARAGRAPH 2-41 THROUGH 2-80).** Describes the remaining operating instructions.
- **CHAPTER 3, MAINTENANCE INSTRUCTIONS.** Provides instructions for lubrication, troubleshooting, and operator maintenance.
- **APPENDIX A, REFERENCES.** Lists publications used with the MTV and reference publications which contain information regarding equipment.
- **APPENDIX B, COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS.** Lists and illustrates COEI and BII items issued with the MTV.
- **APPENDIX C, ADDITIONAL AUTHORIZATION LIST (AAL).** Lists additional items you are authorized for support of the MTV.
- **APPENDIX D, EXPENDABLE AND DURABLE ITEMS LIST.** Lists expendable and durable items used in the performance of maintenance.
- **APPENDIX E, STOWAGE LOCATION/DECAL/STENCIL GUIDE.** Shows the location of signs and details the location of COEI, BII, and AAL items.
- **APPENDIX F, LUBRICATION ORDER.** Gives operator lubrication instructions and the time interval at which lubrication is conducted. Lubrication points are also illustrated.
- **SUBJECT INDEX.** Lists important subjects contained in Volume 2 in alphabetical order and gives the paragraph number where they are located.

FINDING INFORMATION

There are several ways to find the information you need in this manual. They are as follows:

- **TABLE OF CONTENTS.** Lists chapters, sections, appendixes, and indexes with page numbers in order of appearance.
- **CHAPTER INDEXES.** List paragraphs contained in the individual chapters with paragraph and page numbers in order of appearance.

- **MALFUNCTION INDEX.** Lists malfunctions contained in the troubleshooting table with page numbers in order of appearance.
- **ALPHABETICAL (SUBJECT) INDEX.** Lists all important topics with page numbers in alphabetical order.

TROUBLESHOOTING

Troubleshooting is contained in Volume 2, Chapter 3. When you have a problem with the operation of your equipment, look at Table 3-1, Malfunction Index on page 3-2. Find the malfunction in the index. Turn to the page number listed for the malfunction in Table 3-2, Troubleshooting. Perform the steps required to correct the malfunction. If you can not find the malfunction, or the malfunction is not corrected, notify Unit Maintenance.

OPERATION AND MAINTENANCE

- **OPERATION.** Before you operate the MTV, familiarize yourself with the controls and indicators (Chapter 2, Section I). Perform your BEFORE preventive maintenance (Chapter 2, Section II). Read the operating instructions contained in Chapter 2, Sections III and IV. Always follow the WARNINGS and CAUTIONS. During operation, perform your DURING preventive maintenance, and after operation perform your AFTER preventive maintenance (Chapter 2, Section II).
- **MAINTENANCE.** When you perform maintenance, look over the entire procedure before starting. Make sure you have the necessary tools and materials at hand. Always observe WARNINGS and CAUTIONS.

CHAPTER 2

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Section III. OPERATION UNDER USUAL CONDITIONS (CONT)

2-41. STIFFLEGS OPERATION (M1089)

a. Prepare Wrecker to Operate Stifflegs.

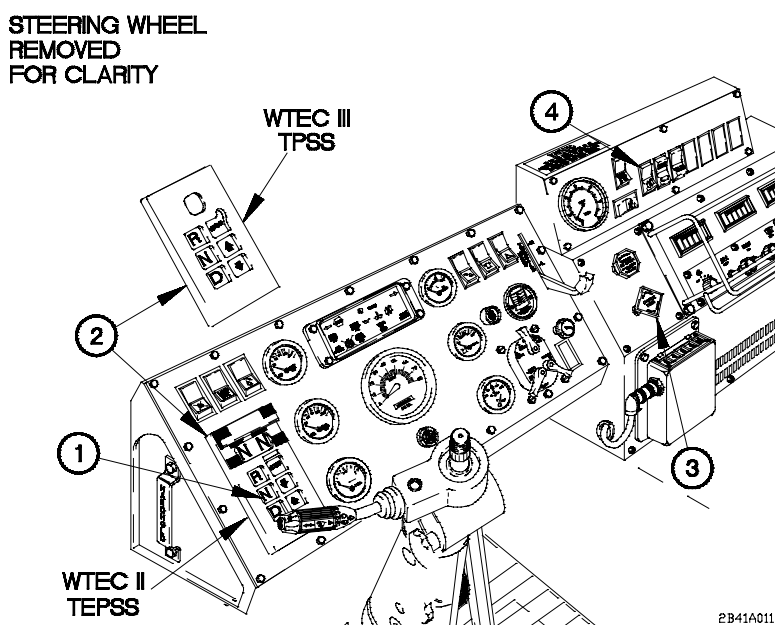
CAUTION

Ensure that hydraulic shutoff valve and return valve are open before operating hydraulic equipment. Failure to comply may result in damage to equipment.

NOTE

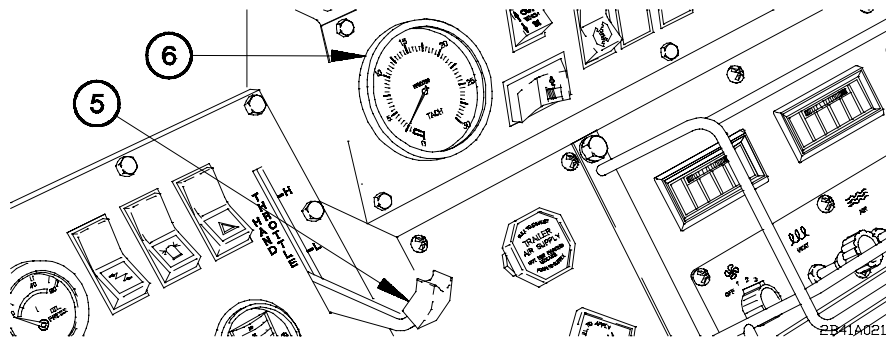
Stifflegs are used to stabilize vehicle when M1089 30K winches or Material Handling Crane (MHC) are operated.

- (1) Chock wheels (para 2-27h).
- (2) Start engine (para 2-27a or b).



- (3) Press N (Neutral) button (1) on WTEC II TEPSS (2) or WTEC III TPSS (2).
- (4) Pull out SYSTEM PARK control (3).
- (5) Position PTO switch (4) to on.

2-41. STIFFLEGS OPERATION (M1089) (CONT)



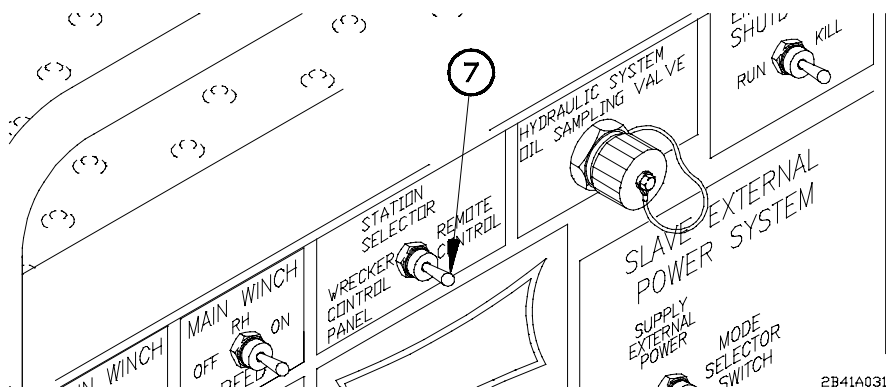
CAUTION

Keep tachometer within 1,250-1,450 rpm when Power Take-Off (PTO) is engaged. Failure to comply may result in damage to equipment.

NOTE

In the event of a tachometer failure a HAND THROTTLE lever positioned to L is approximately 1,250-1,450 rpm.

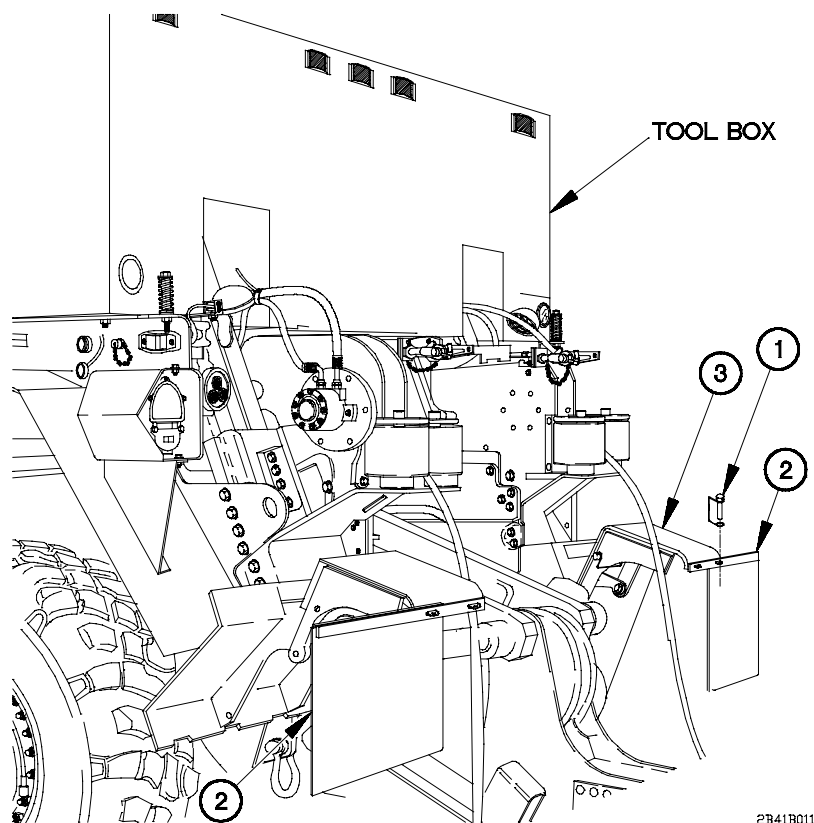
- (6) Set engine speed by increasing HAND THROTTLE lever (5) until tachometer (6) reads 1,250-1,450 rpm.



WARNING

Goggles must be worn when using wrecker control panel. Blowing dust may become airborne while engine is running. Failure to comply may result in injury to personnel.

- (7) Position STATION SELECTOR switch (7) to WRECKER CONTROL PANEL.

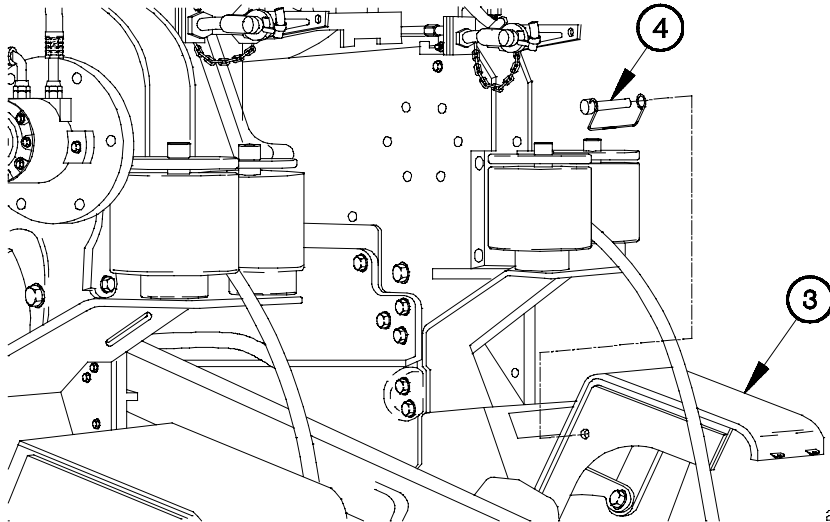
b. Lowering Stifflegs.**CAUTION**

Mudflaps must be removed from brackets before stifflegs are lowered. Failure to comply may result in damage to equipment.

NOTE

- Stifflegs are equipped with sandshoes used during operations on paved surfaces and sand. When operating on off-road terrain, sandshoes are folded up and blade portion of stiffleg anchors wrecker.
 - Perform steps (1) through (4) to lower sandshoes.
- (1) Remove two lock pins (1) and mudflap (2) from sandshoe (3).
 - (2) Stow two lock pins (1) and mudflap (2) in tool box.

2-41. STIFFLEGS OPERATION (M1089) (CONT)

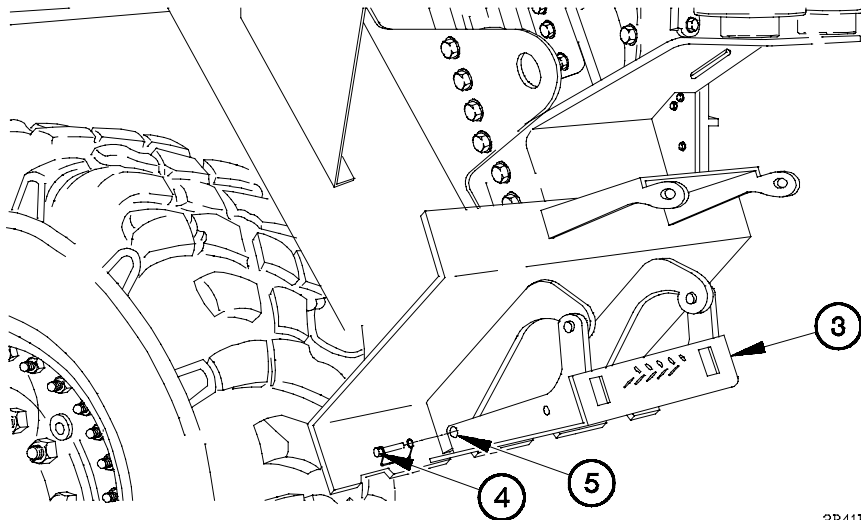


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WARNING

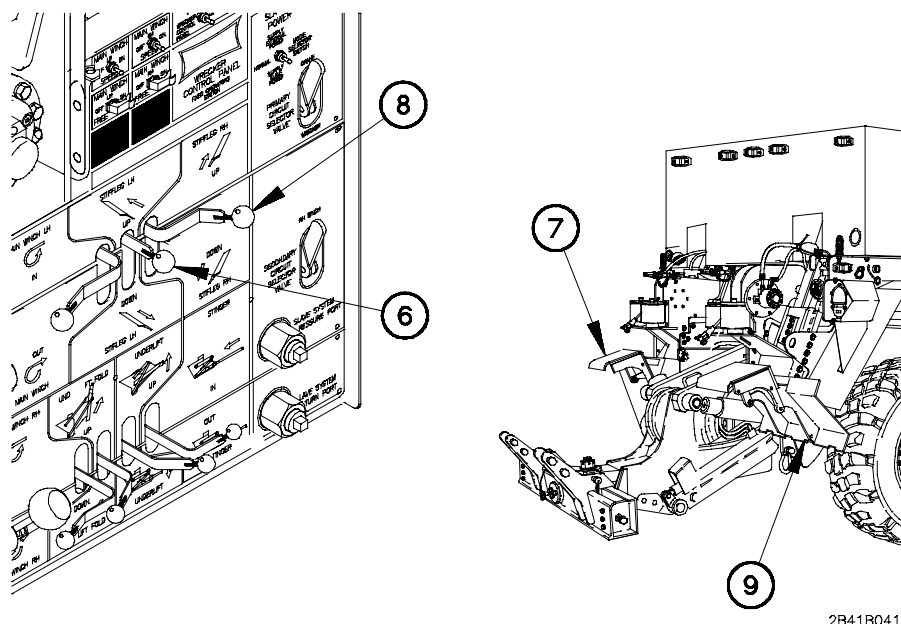
Sandshoe weighs approximately 70 lbs (32 kgs). Use the aid of an assistant to lower/raise sandshoe. Failure to comply may result in injury to personnel or damage to equipment.

- (3) Remove two lock pins (4) and lower sandshoe (3).



2B41B031

- (4) Position sandshoe (3) to align holes (5) and install lock pins (4).
(5) Perform steps (1) through (4) for other stiffleg.



WARNING

- Keep hands and feet clear of stifflegs during operation. Failure to comply may result in serious injury to personnel or damage to equipment.
- Do not raise vehicle tires off ground with stifflegs. Vehicle may roll over. Failure to comply may result in serious injury or death to personnel or damage to equipment.
- Stifflegs must be positioned so that vehicle is level from side to side. Vehicle may roll over. Failure to comply may result in serious injury or death to personnel or damage to equipment.

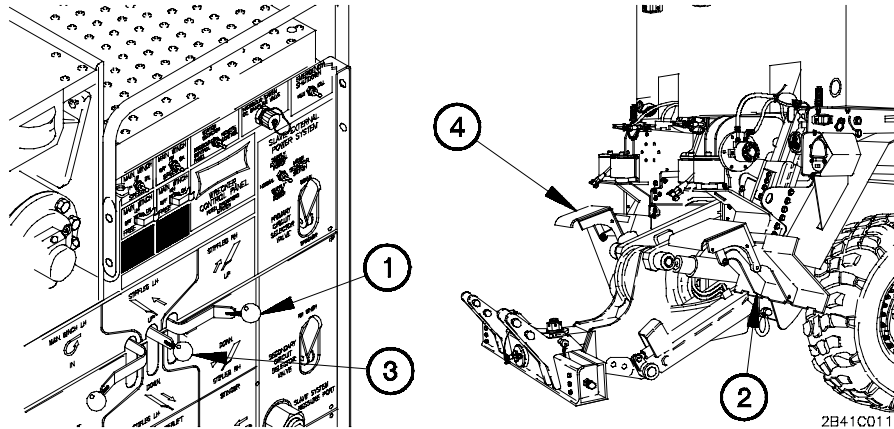
NOTE

When using stifflegs with sandshoes up, blade portion should be allowed to penetrate ground until downward travel of stiffleg stops.

- (6) Position STIFFLEG LH (left hand) lever (6) to DOWN to lower stiffleg (7).
- (7) Position STIFFLEG RH (right hand) lever (8) to DOWN to lower stiffleg (9).

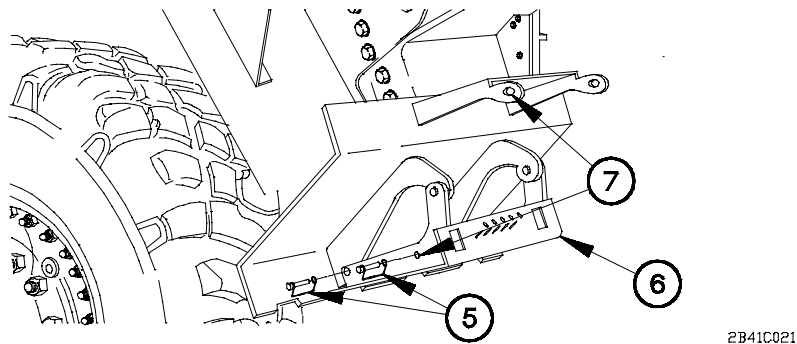
2-41. STIFFLEGS OPERATION (M1089) (CONT)

c. Raising Stifflegs.



(1) Position STIFFLEG RH (right hand) lever (1) to UP until stiffleg (2) is fully raised.

(2) Position STIFFLEG LH (left hand) lever (3) to UP until stiffleg (4) is fully raised.

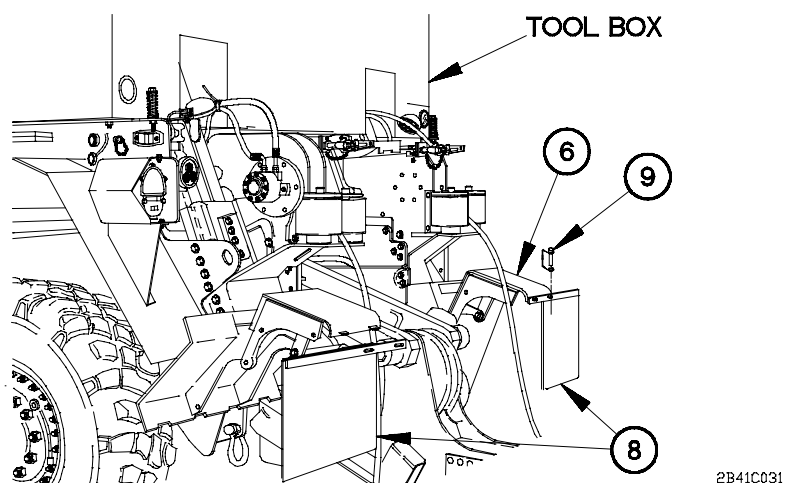


WARNING

Sandshoe weighs approximately 70 lbs (32 kgs). Use the aid of an assistant to lower/raise sandshoe. Failure to comply may result in injury to personnel.

NOTE

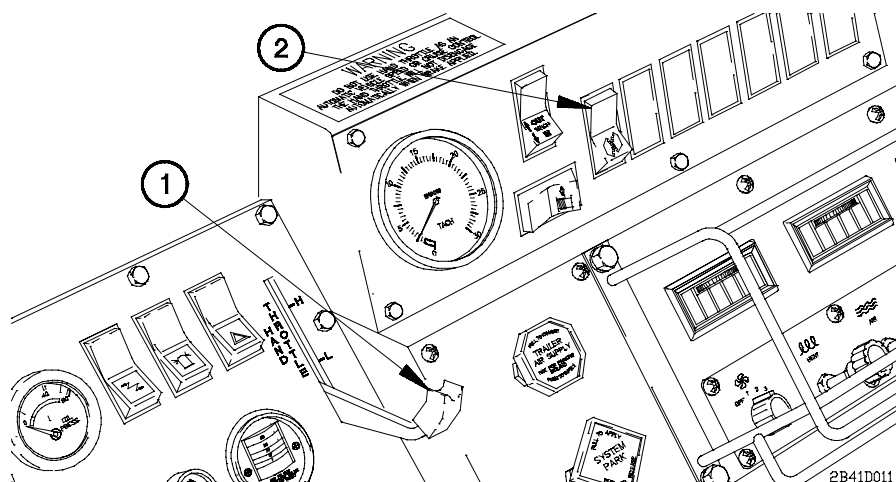
- Perform steps (3) through (5) if sandshoes were used.
 - Steps (3) and (4) require the aid of an assistant.
- (3) Remove two lock pins (5) and raise sandshoe (6).
- (4) Position sandshoe (6) to align holes (7) and install lock pins (5).



2B41C031

- (5) Remove two mudflaps (8) and four lock pins (9) from tool box.
- (6) Install mudflap (8) on sandshoe (6) with two lock pins (9).
- (7) Perform steps (3), (4), and (6) for other stiffleg.

d. Shut Down Wrecker.



2B41D011

- (1) Set engine speed to idle (750 rpm) by decreasing HAND THROTTLE lever (1) to full down position.
- (2) Position PTO switch (2) to off.
- (3) Shut down engine (para 2-27f).

2-42. 30K WINCH OPERATION

a. 30K Winch Operation with Load.

WARNING

Ensure there are at least five wraps of cable on hoist drum at all times. Failure to comply may result in serious injury or death to personnel or damage to equipment.

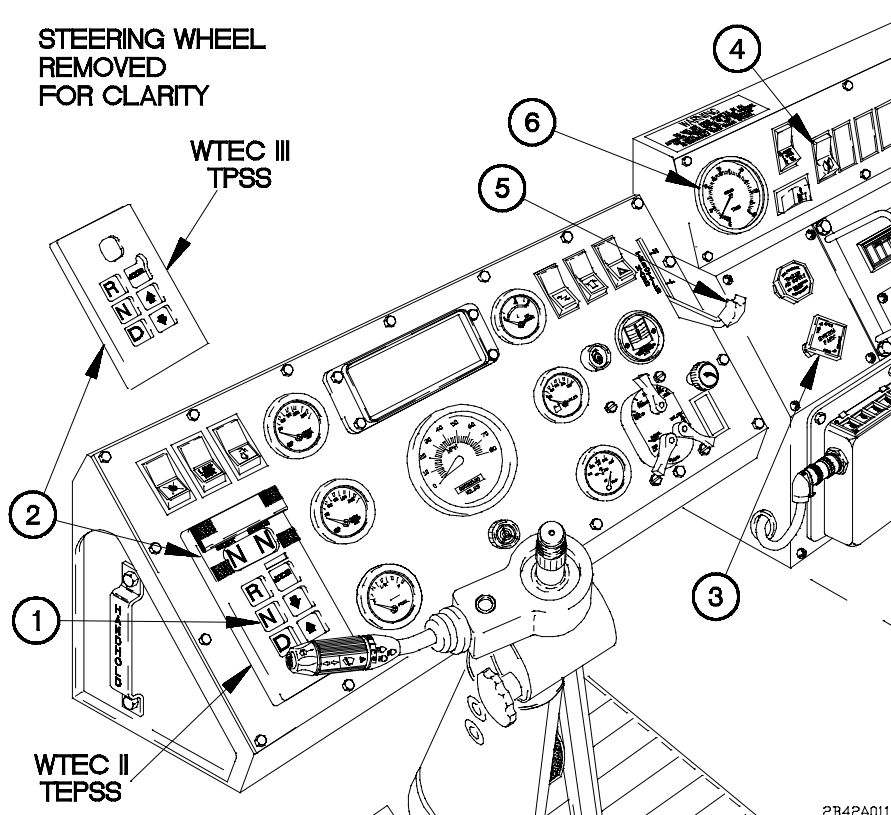
CAUTION

Ensure hydraulic shutoff valve and return valve are open before operating hydraulic equipment. Failure to comply may result in damage to equipment.

- (1) Start engine (para 2-27a or b).
- (2) Position vehicle so the pull is as straight as possible and the 30K winch pull capacity is adequate for equipment to be recovered. Refer to FM 20-22 and Table 2-20. 30K Winch Pull Capacity.

Table 2-20. 30K Winch Pull Capacity

Cable Layer	Maximum Line Pull (cable reeled in at high speed)	Maximum Line Pull (cable reeled in at low speed)
Bottom Layer (five wraps minimum)	15,000 lbs (66,720 N)	30,000 lbs (133,440 N)
2nd Layer	12,720 lbs (56,579 N)	25,440 lbs (113,157 N)
3rd Layer	11,045 lbs (49,128 N)	22,090 lbs (98,256 N)
4th Layer	9,758 lbs (43,404 N)	19,515 lbs (86,803 N)
5th Layer	8,740 lbs (38,876 N)	17,480 lbs (77,751 N)
Top Layer	7,915 lbs (35,206 N)	15,830 lbs (70,412 N)



- (3) Press N (Neutral) button (1) on WTEC II TEPSS (2) or WTEC III TPSS (2).
- (4) Pull out SYSTEM PARK control (3).
- (5) Position PTO switch (4) to on.

CAUTION

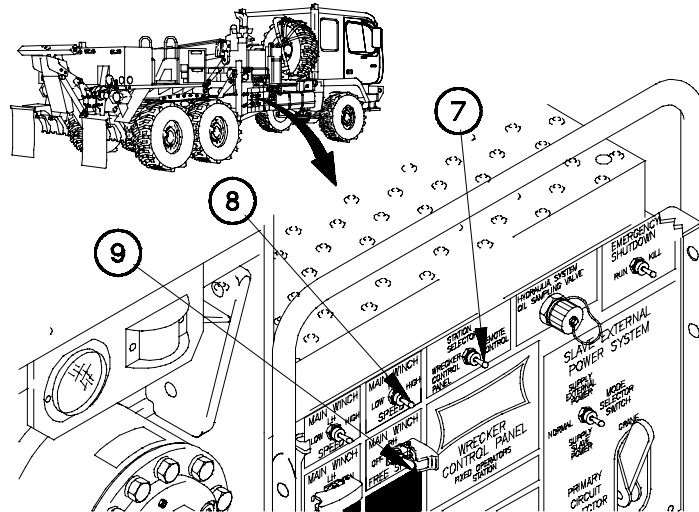
Keep tachometer within 1,250-1,450 rpm when Power Take-Off (PTO) is engaged. Do not exceed 1,450 rpm. Failure to comply may result in damage to equipment.

NOTE

In the event of a tachometer failure a HAND THROTTLE lever positioned to L is approximately 1,250-1,450 rpm.

- (6) Set engine speed by increasing HAND THROTTLE lever (5) until tachometer (6) reads 1,250-1,450 rpm.

2-42. 30K WINCH OPERATION (CONT)



2B42A021

WARNING

Goggles must be worn while operating wrecker control panel. Blowing dust and debris may become airborne while engine is running. Failure to comply may result in injury to personnel.

NOTE

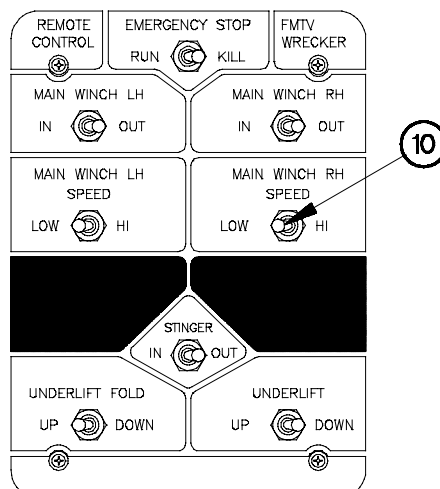
LH and RH 30K winch controls operate the same way. RH 30K winch controls are shown.

- (7) Connect wrecker remote control (para 2-44b).
- (8) Position STATION SELECTOR switch (7) to REMOTE CONTROL.
- (9) Position MAIN WINCH RH SPEED switch (8) to LOW.

CAUTION

MAIN WINCH RH FREE SPOOL switch must be in the OFF position while paying out cable. Failure to comply may result in damage to equipment.

- (10) Position MAIN WINCH RH FREE SPOOL switch (9) to OFF.



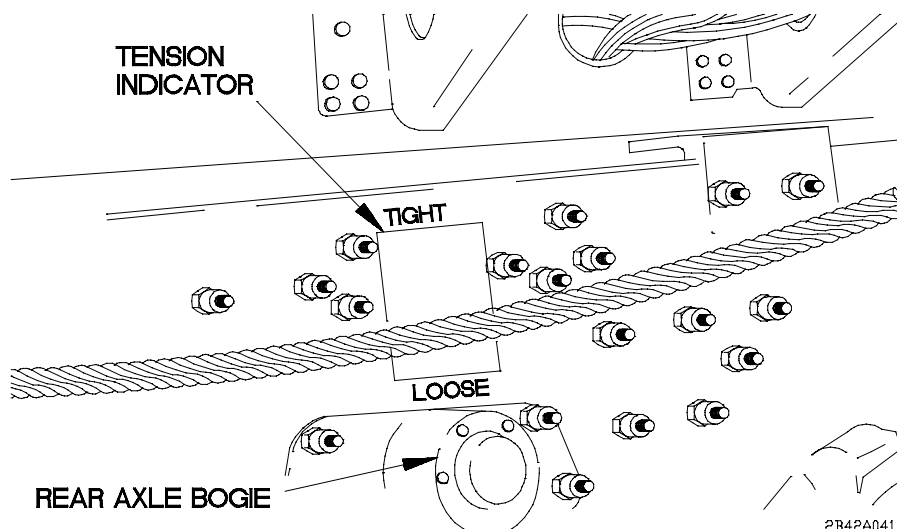
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- (11) Lower stifflegs (para 2-41b).

CAUTION

MAIN WINCH RH SPEED switch must be in LOW position during payout of the first five wraps of cable. Failure to comply may result in damage to equipment.

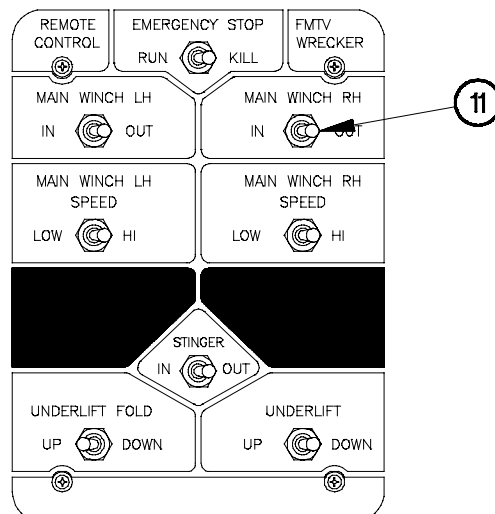
- (12) Position MAIN WINCH RH SPEED switch (10) to LOW.



2B42A041

- (13) Remove any dirt and mud from tension indicator.

2-42. 30K WINCH OPERATION (CONT)

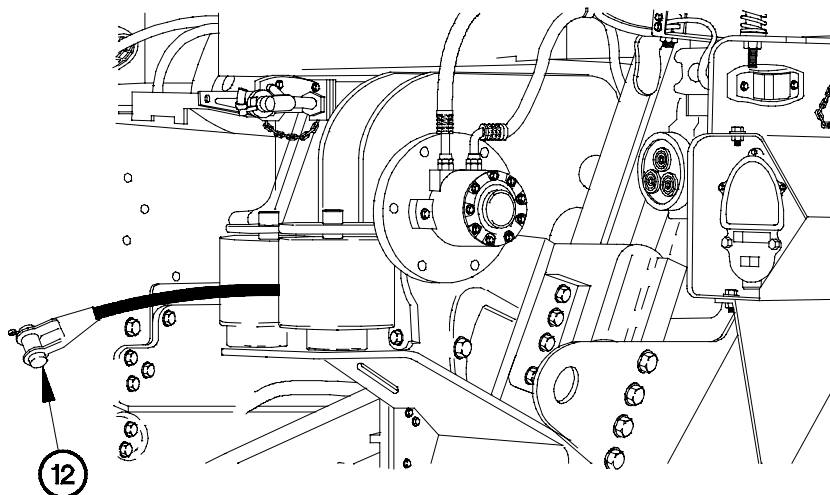


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CAUTION

Cable tension must be checked prior to use. Some slack in the cable is desired. Excessive tension can cause damage to power fairlead and cable. Failure to comply may result in damage to equipment.

- (14) Position MAIN WINCH RH switch (11) to OUT.



2B42A061

- (15) Pay out cable (12) for approximately 20 seconds.