URGENT

MWO effective date 1 October 1995 and completion date 1 June 1996

MWO 5-2410-236-20-1

MODIFICATION WORK ORDER

MODIFICATION
OF
FULL TRACKED TRACTOR, MODEL
D5BS (NSN 2410-01-127-6512)
D5BNS (NSN 2410-01-126-7902)
D5BS1 (NSN 2410-01-270-1192)
D5BNS1 (NSN 2410-01-296-8479)

Headquarters, Department of the Army, Washington, DC

1 October 1995

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this MWO. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Write a letter or complete and mail a DA Form 2028, Recommended Changes to Publications and Blank Forms direct to: Commander, U. S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-IM-MMAA, Warren, MI 48397-5000. You may also provide DA Form 2028 information to TACOM via electronic mail or datafax. Our fax number is DSN 786-6323, Commercial (810) 574-6323.

Our e-mail address is: amsta-mmaa@cc.tacom.army.m

1. Purpose. The purpose of this modification is to replace the wire rope assembly on the D5B Series tractors with a higher rated capacity wire rope assembly.

2. Priority. This modification is classified URGENT.

a. EQUIPMENT IN USE. (including equipment in supply or maintenance activities below depot level and equipment in administrative storage). Equipment in use will be modified as soon as practicable, but no later than the scheduled completion date. Equipment not modified after expiration of MWO completion date will be reported as Non-Mission Capable Materiel (NMCM) in accordance with applicable Army regulations.

b. EQUIPMENT IN WHOLESALE DEPOT SUPPLY OR MAINTENANCE ACTIVITIES. All MWOs to include MWOs which have been incorporated into DMWRs, will be accomplished on serviceable materiel prior to issue and/or subsequent to scheduled completion date. Operational Project Stock stored at the depots will be modified concurrently with depot stock. Issue of unmodified materiel is prohibited. The MWO will be applied to unserviceable materiel during scheduled depot maintenance.

c. PRE-POSITIONED STOCK. Equipment which is pre-positioned will be modified during cyclic maintenance and will be consistent with DA PAM 738-750.

3. End Items or Systems to be Modified. See table 1.

Table 1. End Items or Systems to be Modified

Nomenclature	NSN	Part No.	CAGE	Serial No.
Full Tracked Tractor, D5BS	2410-01-127-6512	D5BS	11083	ALL
Full Tracked Tractor, D5BNS	2410-01-126-7902	D5B	11083	ALL
Full Tracked Tractor, D5BS1	2410-01-270-1192	5R8014	11083	ALL
Full Tracked Tractor, D5BNS1	2410-01-296-8479	5R5048	11083	ALL

4. Assembly to be Modified. Not applicable.

5. Parts to be Modified. Not applicable.

6. Application.

a. TIME COMPLIANCE SCHEDULE. The effective date of this MWO is 1 October 1995 and its completion date is 1 June 1996.

b. LEVEL OF MAINTENANCE. Organizational maintenance is the lowest level of maintenance authorized to perform this modification.

c. WORK FORCE AND MAN-HOUR REQUIREMENTS. See table 2

6. Application - (Continued).

Table 2. Work Force and Man-Hour Requirements

Personnel	MOS	No. Pers.	Man-Hours
Construction Equipment Repairer	62B	1	1.00
Heavy Construction Equipment Operator	62E	1	1.00
Total Man-Hours			2.00

d. MWO's TO BE APPLIED CONCURRENTLY WITH THIS MWO. Not applicable.

e. ADDITIONAL INFORMATION. None.

7. Technical Publications Affected/Changed.

TM 5-2410-236-10, dated November 1989
TM 5-2410-236-24, dated December 1989
TM 5-2410-236-24P, dated September 1992

8. MWO Kit(s) and Their Disposition.

a. KITS/PARTS NEEDED TO APPLY THE MWO.

1. The kit in table 3 is required to accomplish this MWO:

Table 3. MWO Kit

Nomenclature	NSN	Part Number (CAGE)	Qty
Kit, Modification, Wire Rope Assembly	4010-01-414-6820	900-0203-1 (19207)	1

2. Kit shipping data: The kit is 15.2 cubic feet in size and weighs 370 lbs.

b. CONTENTS OF MWO KIT. See table 4.

The following is a list of the parts which make up the wire rope assembly modification kit. You will receive this kit pre-assembled and wound on a spool.

Table 4. MWO Kit Contents

Item No.	Nomenclature	NSN	Part No.	CAGE	Qty
1	Rope, Wire, 1 in. diameter RHRL/EIPS/BRT/IWRC	TBD	RRW410	3P954	142 ft.
2	Clamp, Wire Rope	4030-00-243-4448	1010239	75535	5
3	Ferrule, Cable	TBD	29426	08302	1
4	Winchline Tail Chain	TBD	1091525	75535	1
5	Wire, Nonelectrical	9505-00-198-9105	MS35691-21	4CS962	1

8. MWO Kit(s) and Their Disposition - (Continued).

c. BULK AND EXPENDABLE MATERIAL. Not applicable.

d. PARTS DISPOSITION. Dispose of excess or obsolete parts listed in table 5 in accordance with DA PAM 710-2 or as directed by local authority.

Table 5. Excess and Obsolete Parts

Nomenclature	NSN	Part No.	CAGE	Qty
Wire Rope Assembly	4010-01-284-5806	3R8990	11083	1

9. Special tools, tool kits, jigs, fixtures, and Test, Measurement, and Diagonstic Equipment (TMDE) required. Not applicable.

10. Modification Procedures.

WARNING

Thick gloves should be worn when working with cable. Failure to do so may cause severe injury to hands and fingers.

a. REMOVE OLD WIRE ROPE ASSEMBLY.

NOTE

Wire rope assembly may not be present on all tractors. It's removal has been previously directed through a Safety of Use Message.

1. Refer to Figure 1.

2. Reel out cable from winch by slowly engaging and disengaging clutch. See TM 5-2410-236-10.

3. Remove screw (1), lock washer (2), and clamp (3).

4. Remove ferrule (4) from ferrule slot (5) on winch drum (6). Set wire rope assembly aside for disposition per paragraph 8.

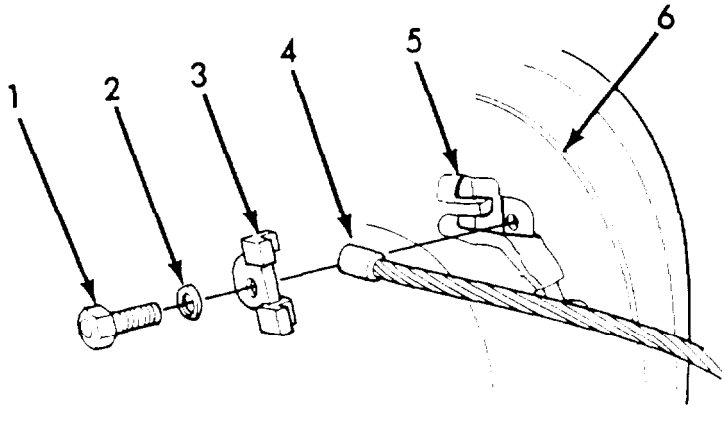


Figure 1.

10. Modification Procedures - (Continued).

b. INSTALL NEW WIRE ROPE ASSEMBLY.

NOTE

Installation of a wire rope on a plain (smooth) face drum requires a great deal of care. Close supervision should be maintained throughout installation.

1. Refer to Figure 1.

2. Attach the new cable assembly to the drum (6) by placing the ferrule (4) into the ferrule slot (5) on the drum (6).

3. To secure the ferrule (4) in the ferrule slot (5) install the clamp (3), lockwasher (2), and screw (1) and tighten to 110-132 lb-ft (149-179 N.m).

CAUTION

The first layer of rope on the drum must be tight and without spaces to insure succeeding layers will go on properly.

4. Maintain tension on the cable (2) as it is being unspooled from the spool (3) and wind onto the drum (1). Each turn is to be guided as close to the preceding turn as possible, so there are not gaps between turns. To produce smooth layers start the rope against the flange of the drum and keep tension on the line while unspooling from the spool. (Refer to Figure 2).

5. Continue to wind all cable (2) onto drum (1)

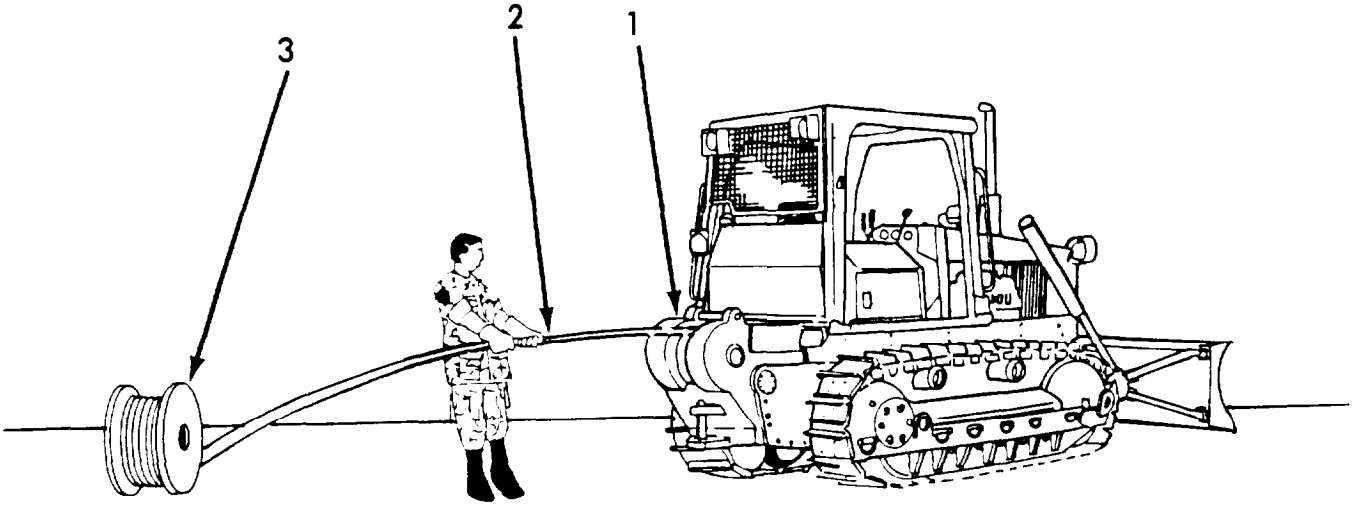


Figure 2.

10. Modification Procedures - (Continued).

WARNING

Exercise extreme caution while seating ferrule.
Failure to securely seat cable in ferrule could cause death or serious injury.

6. Refer to Figure 3.

7. Seat wedge into ferrule (1) by completely unwinding all cable from drum and applying a load to the cable (2).

8. Check to ensure that wedge is properly seated. If cable and wedge still extends beyond the end of ferrule, repeat Step 7 to fully seat.

9. Rewind cable (2) onto drum (3), maintaining tension and guiding turns as close to preceding turn as possible.

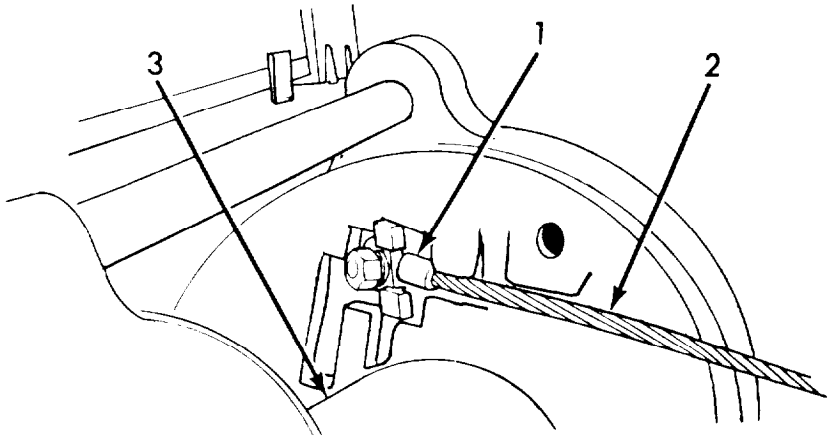


Figure 3.

10. Place winchline tail chain hook (1) through pintle (2) to secure when not in use. (Figure 4).

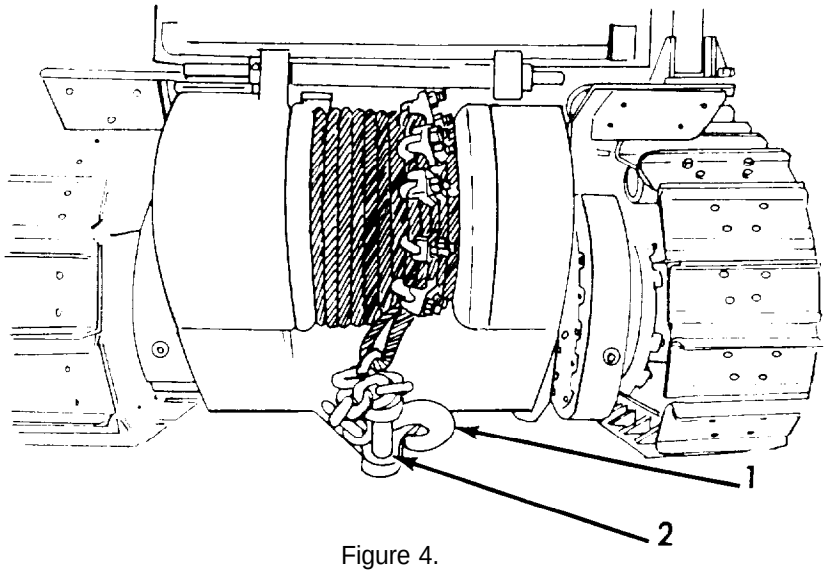


Figure 4.

10. Modification Procedures - (Continued).

WARNING

When operating the winch under any load, leave at least 3 wraps of winch cable on the drum at all times. The hardware which attaches the cable could break resulting in death or serious injury.

11. Calibration Requirements. Not applicable.

12. Weight and balance data. Not applicable.

13. Quality assurance requirements. The wire rope assembly provided in the modification kit has been tested to assure proper fit and reliability when ii-stalled on the D5BS, D5BNS, D5BS1 and D5BNS1 in accordance with the instructions specified in this MWO.

14. Recording and reporting of the modification.

a. RECORDS AND REPORTS. Recording and reporting procedures will be documented on DA Forms 2407, 2408-5, 2408-9, 2409, and DA Form 5504 will be sent to: U.S. Army Tank-automotive and Armaments Command, Warren, Michigan, 48397-5000, ATTN: AMSTA-IM-MMBC.

b. MARKING EQUIPMENT. Record MWO number in log book in accordance with DA Pam 738-750.

c. IDENTIFlCATlON DATA. Not applicable.

15. Material Change (MC) number. This MWO is authorized by MC number 1-95-06-4493.

16. Modification Identification. D5B Series Tractor, Wire Rope Assembly Modification. Refer to TM 5-2410-236-24P for details on original configuration.

The new wire rope assembly consists of 142 feet of one inch wire rope. A ferrule IS installed on one end with a wedge. A seven link winch line tall chain is secured to the other end with five wire rope clamps.

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:
Yvonne M. Harrison
YVONNE M. HARRISON
Administrative Assistant to the
Secretary of the Army
01145

DISTRIUBTION:
To be distributed in accordance with DA Form 12-25-E, block 2312, requirements for MWO 5-2410-236-20-1.

*U.S. GOVERNMENT PRINTING OFFICE: 1996 746-014/20127

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.

SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE

TEAR ALONG PERFORATED LINE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

THE METRIC SYSTEM AND EQUIVALENTS

'NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

'VEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

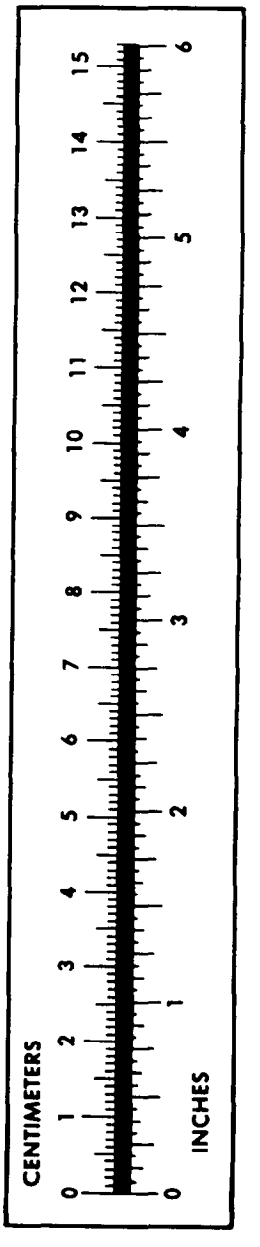
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



PIN: 074326-000