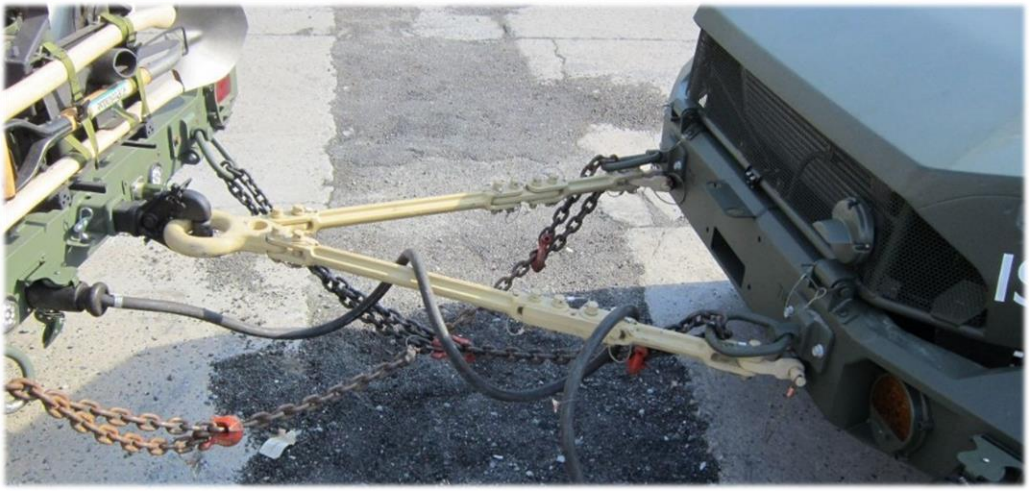
GTA 55-01-001

November 2022

TOW BAR SMART BOOK



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Preface

The Tow Bars listed in this smart book are (Class 9 Expendable or class 2) and approved or conditionally approved for use by the U.S. Army, National Guard, Air Force, Coast Guard and Marine Corps.

The **maximum capacity for all Tow Bars, should be 2 times the Working Load Limit (WLL)** for the Tow Bars. The maximum capacity of the Tow Bar is equal to the Breaking strength. See the Tow Bar Listings for Tow Bar WLL.

The tow bars currently fielded to Army units are ideal for wheeled vehicles weighting 10,000 lbs. or less and tracked vehicles weighing less than 70 tons. As the Army seeks to increase Soldier survivability on platforms, we anticipate wheeled and tracked platform weights will increase to meet that soldier survivability need. Most of the increased weight will come from add-on Armor protection and other technologies improvements. This increase in weight requires us to relook the Army's tow bars capabilities for safety and operational effectiveness. As platform weights increase, maintaining a safety factor of 2:1 is a priority. A 2:1 safety factor ensures each tow bar has a safety factor that is an appropriate buffer for our Soldiers given that the vehicles Gross Vehicle Weight Rating (GVWR) and combat loaded weights are very dynamic and often times differ from vehicle to vehicle.

The Army's fielded **non-articulating tow bars** do **NOT** have a Manufactures Working Load Limit assigned. These tow bars are manufactured to commercial standards which provide a 1.3 safety factor and a maximum capacity. Tow bars in this smart book will have a minimum of **1.5:1** and objective **2:1** safety factor to provide a safer (WLL) for military use. **It is not recommended that the 1.5:1 safety factor be used on up armored vehicles.**

The new Articulating Tow Bars (ATB) in this smart book have been identified by proper weight class and are currently in use with a safety factor of **2:1**.

STANAG 4478 states that any vehicle weighting above 77,163lbs **MUST** have tow provisions that will accept 2 ¼ inch pins. See STANAG 4478 chart for proper pin size by vehicle weight.

Some of the new articulating tow bars **have not been fully tested** so caution should be taken to ensure that the tow bar is not used above its weight class. Commanders must do a risk assessment before using these tow bars until testing has been completed.

This smart book will be updated as satisfactory testing on these tow bars are completed. Updates will be posted at: Army Publishing Directorate

All comments or recommended changes will be directed to william.l.payson.civ@army.mil or 410-278-4115/4474.

WARNINGS/CAUTIONS/NOTES

WARNING:

A disabled vehicle with caged brakes should never be like vehicle towed. In these situations, dedicated recovery assets should be requested. In emergency situations where dedicated assets are not available and at the discretion of the commander; hold back braking methods may be employed by rigging equipment and devices to reduce the risk of overrunning the tow vehicle. When performing like vehicle towing operations, never proceed up or down grades greater than 20%. The weight of the disabled vehicle can push or pull the tow vehicle causing loss of control. Failure to fully assess the risks involved with towing can result in severe damage to equipment, serious injury or death.

WARNING:

Do not move towing vehicle without assistance of ground guides. Ground guides must always be visible to the operator. Failure to comply may result in damage to equipment, serious injury, or death.

WARNING:

Do not put hands near pintle hook when aligning lunette eye with pintle hook. Failure to comply may result in serious injury, or death or damage to equipment.

WARNING:

When towing, ensure that all personnel are clear of vehicle before removing wheel chocks and starting vehicle towing. Use reasonable speeds for road conditions and caution when making turns. Prior to disconnecting tow bar, ensure that vehicles are on level surface with wheels chocked. Failure to comply may result in damage to equipment, serious injury, or death.

WARNING:

The maximum speed limit for track vehicles when towing is 15 mph (24km/h). Terrain, weather, and other conditions may require reduced speeds. Avoid sharp turns and grades greater than 20%. On paved roads, wheel vehicles speeds may be increased to 25 mph if conditions permit. **Refer to the operator's manual for guidance on towing speeds.** Failure to comply may result in damage to equipment, serious injury, or death.

WARNING:

Safety chains or safety straps with appropriate load rating must be installed when using tow bars. Chains should have safety clips on hooks to prevent them from disconnecting during towing operations. On chains without safety clips zip ties or heavy-duty tape can be used to secure the chain to the hook. Safety chains/straps must be connected only to the frame or tie down provisions and never to bumpers or components that can break or detach from the vehicle. Failure to install safety chains/straps can result in equipment damage, serious injury or death if tow bar fails during service.

WARNING:

While the vehicle is being towed with a tow bar, the operator and crew are not allowed to ride in the disabled vehicle. Failure to comply may result in serious injury or death.

WARNING:

When disabled tracked vehicle's weight is more than the weight of the M88 a hold back vehicle is required for any towing operation. If the disabled vehicle's weight cannot be determined the use of a hold back vehicle is required. Failure to comply may result in damage to equipment, serious injury, or death.

WARNING:

The M1A2SEPV2/3 and V4 weigh more than the M88A2 and are over the working load limits of the current heavy tank tow bar. The M1A2SEPV2/3 and V4 require a hold back vehicle, another M1A2SEP V2/3 or V4 or M88A2 and tow bar with adapters/clevises with 2 ¼ inch pins are required for towing. Failure to comply may result in damage to equipment, serious injury, or death.

WARNING:

The Heavy Tank tow bar weighs more than 300lbs and requires a minimum of 4 and as many as 6 Soldiers to safely assemble and connect the tow bar to a vehicle. Soldiers must be trained or licensed on how to assemble, connect, and use tow bars. Failure to comply may result in damage to equipment, serious injury, or death.

WARNING:

Some new vehicles being fielded have tow bar clevis's being added to the vehicles as basic issue items. **These clevis's have not been fully tested and do not comply with STANAG 4478 requirements**. If these clevises are used commanders must do a risk assessment before using the clevises. Failure to comply may result in damage to equipment, serious injury, or death.

CAUTION:

To prevent the possibility of electrical fires; prior to towing disabled or damaged vehicles, the disabled vehicle's batteries should be disconnected to prevent short circuit fires from damaged wiring or electrical components. Some vehicles are equipped with a battery disconnect switch however, some circuits may remain active. Consult the vehicles technical manual for guidance. Failure to comply may result in total loss of equipment or serious injury to personnel.

CAUTION:

For safe control of a recovery operation, there should be two ground guides to prevent confusion. One ground guide in the front, and one in the rear, both ground guides will stand off to the side of the vehicle. Never stand directly in front of or behind the vehicle. Only one guide will be giving signals. The ground guides should stand apart from other personnel at the recovery site and be in a position where operators can easily observe the signals. The operators must know the meaning of the signals to be used

and act only on those signals. Failure to comply may result in damage to equipment, serious injury, or death. See (TC 21-305-20) for more information.

CAUTION:

Personnel will not position themselves between a vehicle and another vehicle or fixed object while the vehicle is moving or being slaved (started with jumper cables). Failure to comply may result in damage to equipment, serious injury, or death. See (AR 385-10) for more information.

NOTE:

On air brake systems, only cage the emergency/parking brakes on disabled vehicle if pneumatic system is compromised and unable to maintain air pressure.

NOTE:

If the casualty vehicle will not hold air pressure, request dedicated recovery support.

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1.0 Determining the right Tow Bar to use

To determine the right tow bar to use you first must know the weight class of the vehicle that you want to use it on.

Tow bars are determined by vehicle weight class and working load limits (WLL) NOT max capacity.

Once you know the vehicles weight (GVW) plus payload, look at the tow bar charts for the WLL and pin sizes to choose the appropriate tow bar to use.

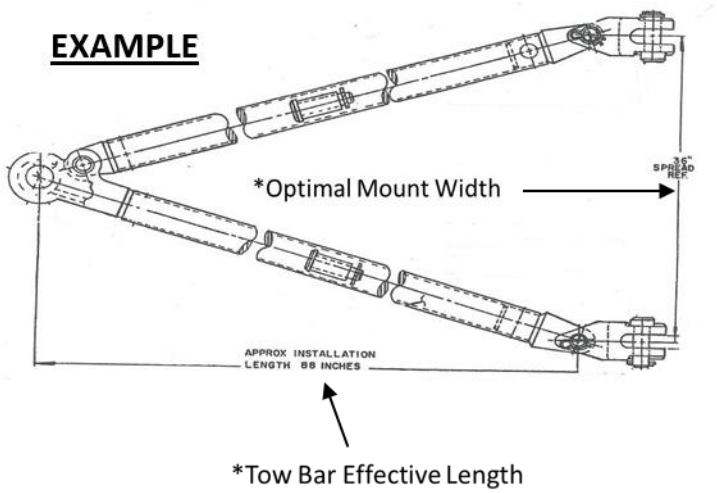
CAUTION:

The weak link for all tow bars is the tow bar pins that connect the clevis to the tow bar. (See STANAG 4478 chart for required pin size by vehicle weight) Failure to comply may result in total loss of equipment or injury.

First you should understand the effective length and optimal mount width.

The effective length of all tow bars is the distance from the center line (CL) of the lunette to the center line of the tow lug nose pin as shown below.

The optimal mount width is the ideal spread of the tow bar legs, using the tow bar at less than or more then the optimal mount width could weaken the tow bar. (See Example)



Determining the right tow bars to use with vehicles by weight class

Tow Bar Type	Ultra-Light Tow Bars	Very Light Tow Bars	Light to Medium - Heavy Tow Bars	Heavy Tow Bars
Vehicle Weight Class	Up to 11,023lbs	11,023lbs-22,046lbs	22,046lbs-77,162lbs	77,162lbs-154,324lbs
Vehicle type	Special operations vehicles,	HMMWV, JLTV	HMMWV, FMTV, JLTV, MRAP, Stryker, Marine MTVR	Paladin, Bradley, HEMTT, LVSR Abrams Tank

Recommended Tow Bar and last four of the NSN's	7K ATB (6496) FMTV (7296)	20K ATB (3097) 30K ATB (8685) FMTV (7296)	30K ATB (8685), FMTV (7296), 80K ATB Short (0633), 80K ATB Long (1639), Marine MTVR (8356)	M88A1 (2912), M88A2 (8595)

Ask yourself these questions before using a Tow Bar

Are you trained or licensed to use tow bars (AR 600-55)?

Is the tow bar safe to use; does it have all the safety pins and clips?

Does the tow bar have the capacity/working load limit (WLL) to tow the disabled vehicle?

Is the towing vehicle weight equal to or greater than the weight of the vehicle being towed?

If performing a wheeled like-vehicle tow, are the brakes on the towed vehicle operable? (If not, call a wrecker)

If you answered NO to any of the above questions do not use the tow bar

Things to look for when inspecting a tow bar

Check for wearing or deformation on the lunette. Measure different points of the lunette and compare them; if there is more than a 10% difference in the measurements, replace the lunette or do not use the tow bar.

Check all surfaces of the tow bar, look for dents and especially the welds, for corrosion and cracks; if found, do not use the tow bar.

When connected, is the tow bar level to the ground? It should not be more than 10-15 degrees above or below the tow pintle. If not use a different vehicle that will give you the proper towing angle.

Inspect tow bar pins for signs of wear. Tow bar pins should not have any play when installed. If they do, they should be replaced. Check the vehicles tow provisions to ensure they are not worn also if they are worn report it to your maintenance.

Inspect tow bar pin holes for deformation. If found, replace the component, or do not use the tow bar.

Tow bar clevis should not have more than ¼ to ½ inch side play when connected to vehicle tow provisions.

Inspect tow bar clevis for cracks, damage, and excessive wear. If found, replace the clevis.

Check the tow pintle to ensure it locks properly and that the safety pin is available. Ensure that the tow pintle turns freely and is not worn excessively.

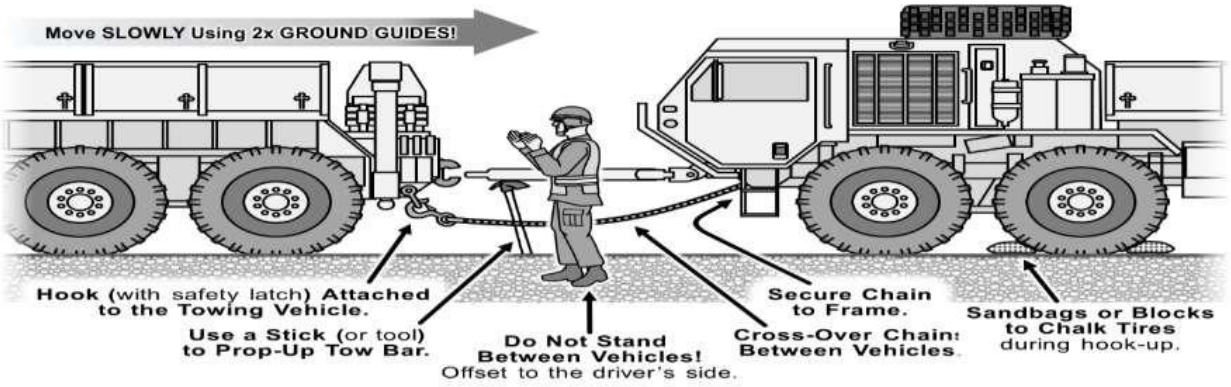
Check disabled vehicles tow provisions to ensure they have no cracks in welds or on the provision.

If tow bar has any bends, cracks, missing pins/locking pins, lunette bent or cracked the tow bar is suspect and should be rendered unserviceable.

WARNING:

Do not use damaged or suspect tow bars they should be rendered unserviceable.

2.0 How to properly connect a tow bar to a vehicle



First: Always follow the guidance in the towed vehicles operators TM for preparation for towing.

Second: Position the towing vehicle in front of the towed vehicle with enough space to assemble the tow bar between the two vehicles. When positioning the towing vehicle ensure the rear tires are aligned with the towed vehicles front tires.

Tow Bars are heavy and requires training to ensure proper assembly, operators need to be trained on what tow bar to use with their vehicle and how to assemble and connect it to a vehicle.

Due to tow bars weights, tow bars must be assembled in pieces. To assemble a tow bar, start with the tow bar clevises. The clevis ‘s gets connected to the disabled vehicle tow provisions. Pay attention to how the clevis is connected; for example, the 4910-01-554-7296 tow bar clevis can be connected with the clevis up or down on the tow provision. The correct way is with the clevis is facing down. Next attach one tow bar leg at a time to the clevis with the lunette still attached to one of the legs. Ensure the tow bar leg attached with the lunette is on the curb side when assembling the tow bar. Once the legs are attached then put the pin in the lunette.

Now find a suitable brace (pick handle) to lift the tow bar and put it on the brace. Back the towing vehicle using ground guides aligning the towing vehicles tow pintle with the tow bar lunette.

CAUTION:

Personnel, NEVER position yourself between moving vehicles. Failure to comply may result in damage to equipment, serious injury, or death. See (AR 385-10) for more information.

Once aligned, set the parking brake on the towing vehicle, and secure the tow bar to the tow pintle.

Connect airlines, IV cable and safety chains.

Ensure the towed vehicle is in neutral and everything is secure, and you are ready to tow a vehicle.

3.0 U.S. Army / U.S. Marine Corp Tow Bars

3.1 U.S. Army Heavy Duty Tow Bar

Do not exceed the capacity of the end item M88A1 when used.

This tow bar is best used on vehicles with weights below 77,160lbs (GVWR) and accommodates 1 ½ in and I in tow provisions only.

NSN:	4910-01-267-2912
Weight:	300lbs
Length without clevis:	84 inches
Max capacity:	112,000lbs (weight of the M88A1)
Optimal mount width:	73-76 inches
(1.5:1 SF) WLL:	75,000lbs
(2:1 SF) WLL:	56,000lbs

Clevis NSN:		**Clevis NSN:**		**Clevis NSN:**	
2540-00-589-6391		2540-00-863-3153		5340-01-267-2908	
					
Pin size:	**2 1/4 inch**	**Pin size:**	**1.5 inch**	**Pin size:**	**1 inch**
****See Annex A to order tow bar pins and safety clips for non-articulating tow bars.**					

3.2 U.S. Army Heavy Duty Tow Bar

Do not exceed the capacity of the end item M88A2 when used.

This tow bar is best used on vehicles with weights below 77,160lbs (GVWR) and accommodates 1 ½ in and I in tow provisions only.

NSN:	2540-01-434-8595
Weight:	282lbs
Length without clevis:	84 inches
Max capacity:	139,000lbs (weight of the M88A2)
Optimal mount width:	73-76 inches
(1.5:1 SF) WLL:	92,667lbs
(2:1 SF) WLL:	69,500lbs

Clevis NSN:	**Clevis NSN:**	**Clevis NSN:**
2540-00-589-6391	2540-00-863-3153	5340-01-267-2908
		
Pin size: 2 1/4 inch	**Pin size: 1.5 inch**	**Pin size: 1 inch**

****See Annex A to order tow bar pins and safety clips for non-articulating tow bars.**

3.3 U.S. Marine Corp Heavy Duty Tow Bar

Do not exceed the capacity of the end item MK15 or the M88A1 when used.

This tow bar is best used on vehicles with weights below 77,160lbs (GVWR) and accommodates ¾, 1 and 1½ inch tow provisions only.

NSN:	(Tow Bar Kit) 2540-01-558-3533
NSN:	(Tow Bar only) 2540-01-591-5914
Weight:	300lbs
Length without clevis:	84 inches
Max capacity:	112,000lbs (weight of the M88A1)
Optimal mount width:	73-76 inches
(1.5:1 SF) WLL:	75,000lbs
(2:1 SF) WLL:	56,000lbs
Packaged as a kit **LVSR:** 2540-01-558-4053, 2ea **(Not Shown)** **7 Ton:** 2540-01-500-5325 (2ea) **HMMWV:** 2530-01-520-6537 (2ea) **M809/939:** 2530-01-520-6538 (2ea) **Shackle:** 4030-01-504-7788 (4ea) **I-V Air Line:** 4720-01-558-4772 (2ea) **I-V Elect Cable:** 6150-01-557-8101 1ea) **Safety Chain:** 4010-01-558-4681 (2ea)	
****See Annex A to order tow bar pins and safety clips for non-articulating tow bars.**	

3.4 U.S. Marine Corp Medium Duty Tow Bar

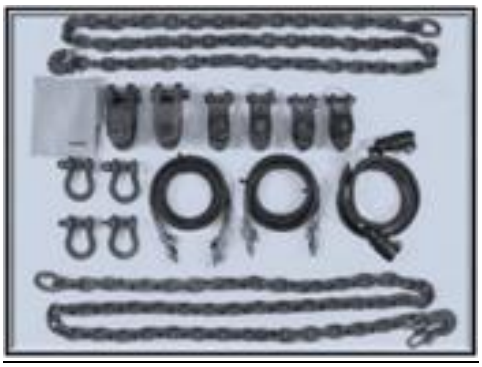
This tow bar is designed to be used in the extended position only.

This tow bar is best used on vehicles with weights below 77,160lbs (GVWR) and accommodates ¾, 1 and 1½ inch tow provisions only.

NSN:	(Tow Bar Kit) 2540-01-496-8356
Weight:	226lbs
Length without clevis:	55 1/2 inches
Max capacity:	83,000lbs
Optimal mount width:	38 inches
(1.5:1 SF) WLL:	55,333lbs
(2:1 SF) WLL:	41,500lbs

Packaged as a kit

7 Ton: 2540-01-500-5325 (2ea)
HMMWV: 2530-01-520-6537 (2ea)
M809/939: 2530-01-520-6538 (2ea)
Shackle: 4030-01-504-7788 (4ea)
I-V Air Line: 4720-01-558-4772 (2ea)
I-V Elect Cable: 6150-01-557-8101 (1ea)
Safety Chain: 4010-01-558-4681 (2ea)



****See Annex A to order tow bar pins and safety clips for non-articulating tow bars.**

3.5 U.S. Army Stryker Tow Bar

This tow bar will only be used on the Stryker FOV and is not approved to be used on any other vehicles.

NSN:	2540-01-517-9227
Weight:	150lbs
Length without clevis:	113 inches
Max capacity:	Unknown
Optimal mount width:	63 ½ inches
(1.5:1 SF) WLL:	Unknown
(2:1 SF) WLL:	Unknown
Clevis NSN:	5340-01-051-3609
	
Pin size:	**1.5 inch**
****See Annex A to order tow bar pins and safety clips for non-articulating tow bars.**	

3.6 U.S. Army M113 Tow Bar

This tow bar is best used on vehicles with weights below 50,000lbs (GVWR) and accommodates ¾, 1 and I½ inch tow provisions only.

NSN:	2540-00-936-7801
Weight:	180lbs
Length without clevis:	82 inches
Max capacity:	68,000lbs
Optimal mount width:	48 inches
(1.5:1 SF) WLL:	45,333lbs
(2:1 SF) WLL:	34,000lbs

Clevis NSN:	5340-01-051-3609	**Clevis NSN:**	5340-01-046-4770
			
Pin size:	**1.5 inch**	**Pin size:**	**¾ and 1 inch**

****See Annex A to order tow bar pins and safety clips for non-articulating tow bars.**

3.7 U.S. Army Medium Duty Tow Bar

This tow bar is designed to be used in the retracted (collapsed) position.

This tow bar is best used on vehicles with weights below 50,000lbs (GVWR) and accommodates 1- and 3/4-inch tow provisions only.

NSN:	4910-01-554-7296		
Weight:	140lbs		
Length without clevis:	56 inches		
Max capacity:	65,000lbs		
Optimal mount width:	25 inches		
(1.5:1 SF) WLL:	43,333lbs		
(2:1 SF) WLL:	32,500lbs		
Clevis NSN:	5340-01-023-9801	**Clevis NSN:**	5340-01-022-4686
			
Pin size:	**1 inch**	**Pin size:**	**3/4 inch**
****See Annex A to order tow bar pins and safety clips for non-articulating tow bars.**			

4.0 Introduction to U.S. Army Articulating Tow Bars (ATB)

The ULTRA LIGHT ATB (7K GVWR), VERY LIGHT ATB (20K GVWR), LIGHT ATB (30K GVWR), MEDIUM ATB (65K GVWR), HEAVY ATB (80K GVWR), HEAVY LONG ATB (120K GVWR) and the HEAVY STRYKER ATB (80K GVWR) and 180K HEAVY-TANK (GVWR) towbars have been tested globally and acceptable for use.

ATBs connect between both Tow and disabled vehicles in Park Mode.

No personnel are required be between the vehicles or the "crush zone" while backing the towing vehicle to connect the ATB tow bars.

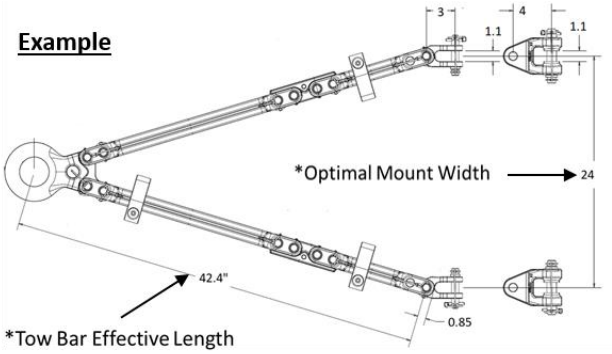
All ATB tow bars have a minimum of 2:1 Safety Factor or double their GVWR rating.

All Tow Bars are approved for use on all roads globally.

NSN's for the ATBs are being catalogued.

Use MFR part number to order if no NSN is shown.

The effective length of all tow bars is the distance from the center line (CL) of the lunette to the center line (CL) of the tow lug nose pin as shown below.



4.1 How to properly connect an Articulating Tow Bar (ATB) for towing.

First: Follow the guidance in the towed vehicles operators TM for preparation for towing. Select ATB based on vehicle GVWR and ATB Rating.

Second: Position the towing vehicle in front of the towed vehicle and place in park with enough space to assemble the tow bar between the two vehicles. Turn off towing vehicle engine if safe to do so. Only keep engine running where assembly speed is important due to hostile surroundings. When positioning the towing vehicle, you do not have to be directly aligned or on flat ground but try to be as aligned as possible as with any tow bar. The ATB will be forgiving if misaligned within a few feet.

Articulating Tow Bars require training to ensure proper assembly and use. Follow the steps below to properly install the Articulating Tow bar (ATB).

On disabled vehicle, install tow bar adaptors on left and right-side tow lugs. Insert pin from inboard to outboard side as shown in figure 1.

Step 1

Figure 1

Install snap ring on left and right adaptor pins to secure pins, as shown in figure 2.

Step 2

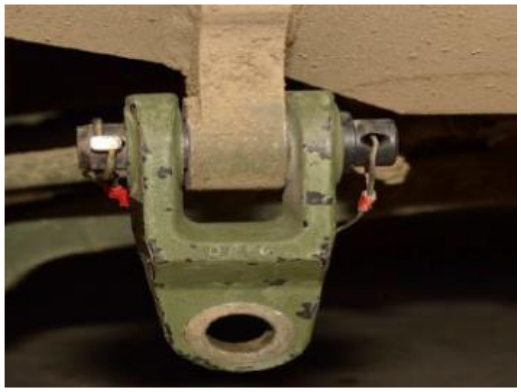


Figure 2

Install the (short arms first if applicable) arms of the tow bar and pin to the clevis adapters with pin heads “on top” as shown in figure 3. Install snap rings.

Note: If the tow bars legs have two long legs and tow short legs connect the short legs to the tow adapter.

Step 3

Figure 3

Install elbow with flat side of elbow wall out, leaving one pin loose as shown per leg closest to lunette. Then install long legs. (See figure 4)

"Front" elbow pins out only.

Step 4

Figure 4

Articulate tow bar easily onto recovery vehicle pintle. One pin out of hole as shown in figure 5 per elbow.

Step 5

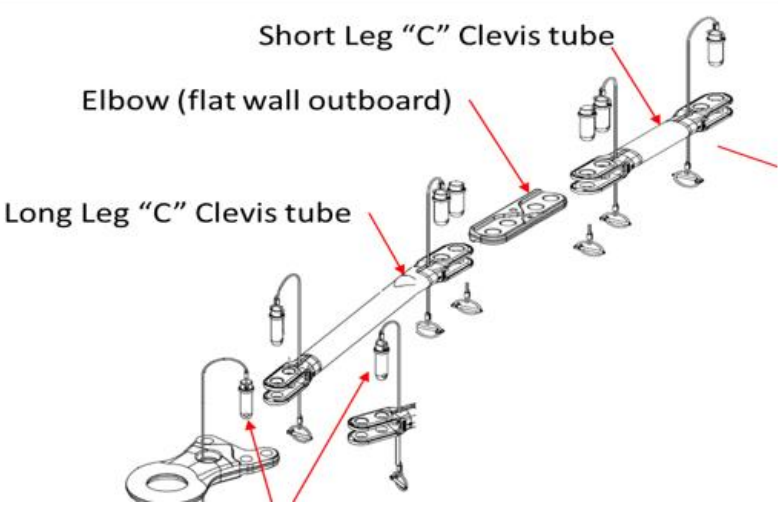
Figure 5

Drive recovery vehicle forward with disabled vehicle parking brake on and stop slowly to lock last two pins in place once legs straighten.
(See Figure 6)

Step 6

Figure 6

Step 7: Verify that all pins and clips are, connect airlines, IV cable and safety chains. Ensure the towed vehicle is in neutral and everything is secure, and you are ready to tow a vehicle.



5.0 U.S. Army Articulating Tow Bars

5.1 U.S. Army (7K) Ultra-Light ATB

This tow bar is designed to be used with unique SOCOM and Airborne special purpose vehicles

NSN:	2540-01-658-6496	**ATB Body Pin:**	10P0200
MFR Part#	DP007	**Clevis Duty Rating:**	Ultra-Very Light (UTV)
Weight:	23lbs	**Clevis P/N:**	10A0076 (Comes with Tow Bar)
Length without clevis:	42.4 inches	**Tow Lug Pin Dia:**	0.75
Max capacity:	14,000lbs	**Optimal mount width:**	24 inches
Clevis Opening Width:	1.1		
(1.5:1 SF) WLL:	9,333lbs	**(2:1 SF) WLL:**	7,000lbs
Clevis NSN:	2540-01-661-8153		
			
Pin size:	**3/4 inch**		
****See Annex B to order tow bar pins and safety clips for articulating tow bars.**			

5.2 U.S. Army (20K) Very Light ATB

This tow bar is best used on vehicles with weights below 20,000lbs (GVWR) and accommodates 1- and 3/4-inch tow provisions only.

NSN:	4910-01-680-3097	**ATB Body Pin:**	10P0201
MFR Part#	DP2000	**Clevis Duty Rating:**	Very Light
Weight:	37lbs	**Clevis P/N:**	10A0242 Comes with tow bar
Length without clevis:	52.5 inches	**Tow Lug Pin Dia:**	1.0
Max capacity:	40,000lbs	**Optimal mount width:**	26.2 inches
Clevis Opening Width:	1.58		
(1.5:1 SF) WLL:	26,667lbs	**(2:1 SF) WLL:**	20,500lbs

Clevis P/N:	10A0242

Pin size:	**1 inch**

****See Annex B to order tow bar pins and safety clips for articulating tow bars.**

5.3 U.S. Army (30K) Light ATB

This tow bar is best used on vehicles with weights below 30,000lbs (GVWR) and accommodates ¾, 1- and 1.5-inch tow provisions.

NSN:	2590-01-690-8685	**ATB Body Pin:**	10P0177
MFR Part #	DP3000	**Clevis Duty Rating:**	Light
Weight:	69lbs	**Clevis Assy P/N:**	10A0127 Comes with tow bar
Length without clevis:	52.5 inches	**Tow Lug Pin Dia:**	0.75
Max capacity:	60,000lbs	**Optimal mount width:**	26.2 inches
Clevis Opening Width:	1.58		
(1.5:1 SF) WLL:	40,000lbs	**(2:1 SF) WLL:**	30,500lbs
Clevis P/N:	10A0127	**Clevis P/N:**	10A0140
			
Pin Size:	**¾ inch**	**Pin Size:**	**1 inch**
****See Annex B to order tow bar pins and safety clips for articulating tow bars.**			

5.4 U.S. Army (65K) Medium ATB

This tow bar is best used on vehicles with weights below 65,000lbs (GVWR) and accommodates 1 and 1 ½ inch tow provisions only.

NSN:	4910-01-655-7741	**ATB Body Pin:**	10P0178
MFR Part #	DP6500	**Clevis Duty Rating:**	Medium
Weight:	97lbs	**Clevis P/N:**	10A0154 comes with tow bar both
Length without clevis:	59.1 inches	**Clevis Assy P/N:**	10A0151
Max capacity:	130,000lbs	**Tow Lug Pin Dia:**	1.0 and 1.5
Clevis Opening Width:	1.86	**Optimal mount width:**	25 inches
(1.5:1 SF) WLL:	86,667lbs	**(2:1 SF) WLL:**	65,000lbs

Clevis P/N:	10A0154	**Clevis P/N:**	10A0151
			
Pin size:	**1 1/2 inch**	**Pin size**	**1 inch**

****See Annex B to order tow bar pins and safety clips for articulating tow bars.**

5.5 U.S. Army (80K) Heavy Short ATB

This tow bar is best used on vehicles with weights below 80,000lbs (GVWR) and accommodates 1 1/2-inch tow provisions only.

NSN:	4910-01-628-0633	**ATB Body Pin:**	10P0175
MFR Part#:	DP8000	**Clevis Duty Rating:**	Heavy
Weight:	183.4lbs	**Clevis P/N:**	10A0164 Comes with tow bar.
Length without clevis:	67.3 inches	**Tow Lug Pin Dia:**	1.5
Max capacity:	160,000lbs	**Optimal mount width:**	35.5 inches
Clevis Opening Width:	1.86		
(1.5:1 SF) WLL:	106,700lbs	**(2:1 SF) WLL:**	80,000lbs
Clevis NSN:	4030-01-659-6289		
			
Pin size:	**1 1/2 inch**		
****See Annex B to order tow bar pins and safety clips for articulating tow bars.**			

5.6 U.S. Army (80K) Heavy Extra-long ATB

This tow bar is designed to be used with the Marine ACV, LAV and Stryker.

This tow bar is best used on vehicles with weights below 80,000lbs (GVWR) and accommodates 1 1/2-inch tow provisions only.

NSN:	2540-01-663-1639	**ATB Body Pin:**	10P0175
MFR PN#	DP8080	**Clevis Duty Rating:**	Heavy
Weight:	240.9lbs	**Clevis P/N:**	10A0164 Come with tow bar.
Length without clevis:	106.5 inches	**Tow Lug Pin Dia:**	1.5
Max capacity:	160,000lbs	**Optimal mount width:**	51.7 inches
Clevis Opening Width:	1.86		
(1.5:1 SF) WLL:	106,667lbs	**(2:1 SF) WLL:**	80,000lbs

Clevis NSN:	4030-01-659-6289

Pin size:	**1 1/2 inch**

****See Annex B to order tow bar pins and safety clips for articulating tow bars.**

5.7 U.S. Army (120K) Heavy Long ATB

This tow bar is best used on vehicles with weights below 120,000lbs (GVWR) and accommodates 1 1/2-inch tow provisions only.

NSN:	Pending	**ATB Body Pin:**	10P0175
MFR Part#	DP0120	**Clevis Duty Rating:**	Heavy
Weight:	207lbs	**Clevis P/N:**	10A0164 Comes with tow bar.
Length without clevis:	81.5 inches	**Tow Lug Pin Dia:**	1.5
Max capacity:	240,000lbs	**Optimal mount width:**	33 inches
Clevis Opening Width:	1.86		
(1.5:1 SF) WLL:	160,000lbs	**(2:1 SF) WLL:**	120,500lbs
Clevis NSN:	4030-01-659-6289		
			
Pin size:	**1 1/2 inch**		
****See Annex B to order tow bar pins and safety clips for articulating tow bars.**			

5.8 U.S. Army (180K) Heavy Tank ATB

This tow bar is designed to be used with all tracked vehicles and the M88A2

This tow bar is best used on vehicles with weights below 360,000lbs (GVWR) and accommodates 1 1/2 and 2 1/4-inch tow provisions only.

NSN:	Pending	**ATB Body Pin:**	10P0190
MFR Part#	DP0180	**Clevis Duty Rating:**	Heavy Tank
Weight:	319lbs	**Angled Clevis P/N:**	10A0167 Comes with tow bar.
Length without clevis:	87 inches	**Tow Lug Pin Dia:**	2.25
Max capacity:	360,000lbs	**Optimal mount width:**	73.3 inches
Clevis Opening Width:	2.1/4		
(1.5:1 SF) WLL:	240,000lbs	**(2:1 SF) WLL:**	180,000lbs

Clevis P/N:	**10A167**

Pin size:	**2 1/4 inch**

****See Annex B to order tow bar pins and safety clips for articulating tow bars.**

ANNEX A -Tow Bar Pin's and safety clips for Non-Articulating Tow Bars

The following is pin and safety clip replacement data.

Adapter	Pin NSN	Part Number	DIA	Klick Pin NSN	Part Number	Tow bar
5340-01-022-4686	5315-00-624-0543	7551077	3/4in	5315-01-131-0145	7551076	4910-01-554-7296 or 4910-01-365-9304
5340-01-023-9801	5325-00-624-0528	7551074	1in	5315-01-131-0145	7551076	4910-01-554-7296 or 4910-01-365-9304
5340-01-267-2908	5315-00-539-9174	10929861	1.468in	5315-00-350-4326	52113744	4910-01-267-2912
2540-00-863-3153	5325-00-624-0528	7551074	1in	5315-01-131-0145	7551076	4910-01-267-2912
Tow Bar Lunette	5315-01-441-2462	11580770	2in	5315-01-439-4753	11580766	2540-01-434-8595
5340-01-267-2908	5315-01-440-1402	11580771	1.468in	5315-01-439-4165	11580765	2540-01-434-8595
2540-01-500-5325	5315-01-500-5324	3390992	1.48in	5315-01-490-7325	3406240	2540-01-496-8356 or 2540-01-558-3533
2530-01-520-6538	5315-01-520-6540	3379666	1in	5315-01-215-7505	1360840	2540-01-496-8356 or 2540-01-558-3533
2530-01-520-6537	5315-01-520-6541	3379668	3/4in	5315-01-215-7505	1360840	2540-01-496-8356 or 2540-01-558-3533
2540-01-558-4053	5315-01-558-4481	3709963	1.468in	5315-01-490-7325	3406240	2540-01-591-5914 or 2540-01-558-3533
5340-01-051-3609	5315-01-035-5307	003504326	1.469in	5315-00-350-4326	52113744	2540-00-936-7801 or 2540-01-517-9227
Tow Bar Leg	5315-01-517-9017	12475745	1in	5315-01-131-0145	7551076	2540-00-936-7801 or 2540-01-517-9227
5340-01-046-4770	5315-00-624-0543	7551077	3/4in	5315-01-131-0145	7551076	2540-00-936-7801
5340-01-046-4770	5325-00-624-0528	7551074	1in	5315-01-131-0145	7551076	2540-00-936-7801

ANNEX B - Tow Bar Pin's and safety clips for Articulating Tow Bars

The following is pin and safety clip replacement data.

ATB	ATB CLASS	ATB P/N	ATB NSN	Clevis ASSY P/N	Clevis ASSY NSN	TOW PIN DIA	TOW LUG WIDTH OPENING	TOW PIN ASSY P/N	TOW PIN ASSY NSN	KLICK PIN P/N	KLICK PIN NSN
7K	ULTRA-LIGHT	DP007	2540-01-658-6496	10A0076	TBD	3/4 INCH	27.8 MM/1.1"	10A0075	2540-01-661-8153	10H0013	5315-01-659-3614
7K	"	DP007	"	10A0128 	TBD	3/4 INCH	27.8MM/1.1"	10A0075	2540-01-661-8153	10H0013	5315-01-659-3614
7K	"	DP007	"	10A0133 	TBD	1 INCH	27.8 MM/1.1"	10A0032	TBD	10H0013	5315-01-659-3614
7K	"	DP007	"	10A0134 	TBD	1 INCH	40.1MM/ 1.58"	10A0032	TBD	10H0013	5315-01-659-3614
20K	VERY-LIGHT	DP2000	4910-01-680-3097	10A0242 (AL)	TBD	1 INCH	40.1MM/ 1.58"	10A0032	TBD	10H0013	5315-01-659-3614
20K	"	DP2000	"	10A0140 	TBD	1 INCH	40.1MM/ 1.58"	10A0032	TBD	10H0013	5315-01-659-3614
30K	LIGHT	DP3000	2590-01-690-8685	10A0140	TBD	1 INCH	40.1MM/ 1.58"	10A0032	TBD	10H0013	5315-01-659-3614
30K	"	DP3000	"	10A0138 	TBD	1.5 INCH	47.2MM/1.86"	10A0034	5315-01-659-3618	10H0015	
65K	MEDIUM	DP6500	4910-01-655-7741	10A0151	TBD	1 INCH	47.2MM/1.86"	10A0032		10H0013	5315-01-659-3614
65K	"	DP6500	"	10A0154 	TBD	1.5 INCH	47.2MM/1.86"	10A0034		10H0015	TBD
80K	HEAVY-SHORT	DP8000	4910-01-628-0633	10A0164	4030-01-659-6289	1.5 INCH	47.2MM/1.86"	10A0034		10H0015	TBD
80K	"		"	10A0198 	TBD	2.25 INCH	53.8MM. 2.12 "	10A0199		10H0018	TBD
80K	HEAVY-LONG	DP8080C	2540-01-663-1639	10A0164	4030-01-659-6289	1.5 INCH	47.2MM/1.86"	10A0034		10H0015	TBD
80K	"		"	10A0198 	TBD	2.25 INCH	53.8MM. 2.12 "	10A0199		10H0018	TBD
120K	HEAVY-LONG	DP0120	TBD	10A0164	4030-01-659-6289	1.5 INCH	47.2MM/1.86"	10A0034		10H0015	TBD
120K	"		"	10A0198 	TBD	2.25 INCH	53.8MM. 2.12 "	10A0199		10H0018	TBD
180K	HEAVY-TANK	DP0180	TBD	10A0167	TBD	2.25 INCH	53.8MM. 2.12 "	10A0199		10H0018	TBD
180K	"		"	10A0166 	TBD	2.25 INCH	53.8MM/2.12"	10A0199		10H0018	TBD
180K	"		"	10A0165 	TBD	1.5 INCH	47.2MM/1.86"	10A0034		10H0015	TBD

ANNEX C - Safety Chains and Optional Equipment

The following safety chains can be used on all weight classes of vehicles.

NSN	Part Number	Size/length
3940-01-270-3389	1482010	5/8 - 16ft (Chain)
4010-01-558-4681	3709972	5/8 - 17ft (Chain)
4010-01-520-7142	3440352	5/8 - 14.5ft (Chain)

Tow Straps / Extraction Ropes

Tow straps and ropes are for EXTRACTION ONLY they are not to be used for towing.

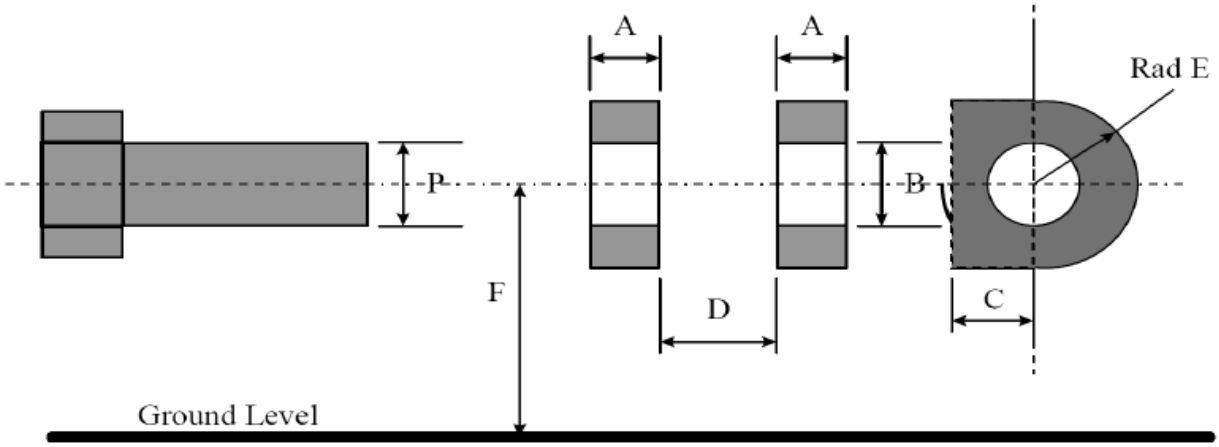
Two straps can be used as safety chain with tow bars if they are rated to support the vehicle's Gross Vehicle Weight Rating (GVWR).

WARNING

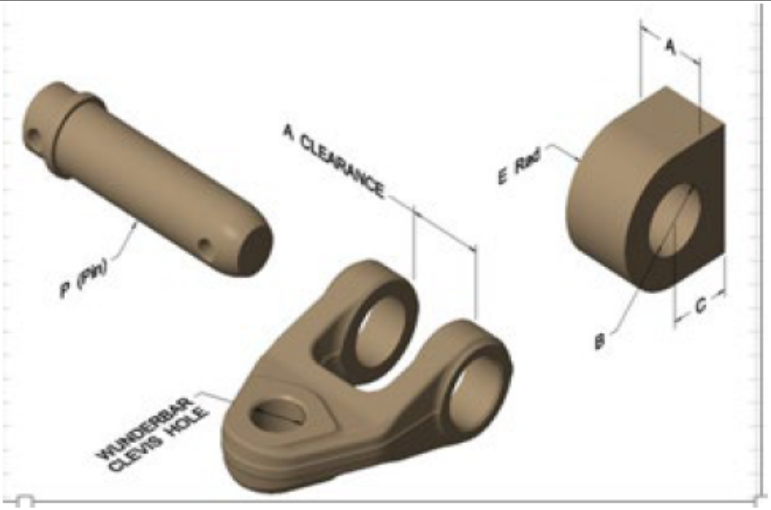
Extraction ropes are not to be used as safety chains; they will stretch causing loss of control of the vehicle if the tow bar breaks.

ANNEX D - (U.S. and NATO) Tow Lug, Adapter and Pin Sizes per STANAG 4478

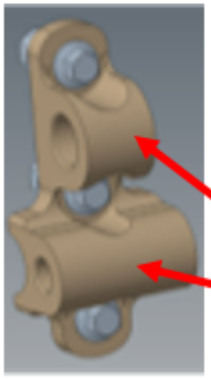
The following Chart shows the STANAG 4478 dimensions for Vehicle Towing Lugs, tow bar Adapters and pin diameters. Recommended for all U.S. and NATO vehicle types. Use STANAG 4478 Adapters and vehicle tow lugs whenever possible. All new vehicles should provide STANAG Compliant Tow Lugs based on Gross Vehicle Mass Range as indicated.



Gross Vehicle Mass Range		P "P"			Lug "A"			Lug Dia "B"			Lug Surface Distance "C"	Lug to Lug "D"			Outer Radius "E"		
Lower Limit (kg)	Upper Limit (kg)	Tolerance Under (mm)	Nominal Value (mm)	Tolerance Over (mm)	Tolerance Under (mm)	Nominal Value (mm)	Tolerance Over (mm)	Tolerance Under (mm)	Nominal Value (mm)	Tolerance Over (mm)	Minimum Value (mm)	Tolerance Under (mm)	Nominal Value (mm)	Tolerance Over (mm)	Tolerance Under (mm)	Nominal Value (mm)	Tolerance Over (mm)
0	5,000	0.2	19.05	0.2	0.8	22.2	0.8	0.3	20.5	0.3	25.4	3.2	1270	3.2	0.8	20	0
5,000	10,000	0.2	25.4	0.2	0.8	34.9	0.8	0	26.5	0.3	31.75	3.2	1270	3.2	0.8	32.15	0
10,000	35,000	0.4	37.5	0	0.8	44	0.8	0	38.5	0.5	38.1	3.2	1270	3.2	0.8	38.2	0
35,000	70,000	0.3	57.2	0.3	0.8	50.8	0.8	0	60	0.3	63.5	3.2	1270	3.2	0.8	62.3	0
Lower Limit (lbs)	Upper Limit (lbs)	Lower Limit (in)	Nominal Value (in)	Upper Limit (in)	Lower Limit (in)	Nominal Value (in)	Upper Limit (in)	Lower Limit (in)	Nominal Value (in)	Upper Limit (in)	Minimum Value (in)	Lower Limit (in)	Nominal Value (in)	Upper Limit (in)	Lower Limit (in)	Nominal Value (in)	Upper Limit (in)
0	11,023	0.74	0.75	0.76	0.84	0.87	0.91	0.80	0.81	0.82	1	49.9	50	50.1	0.76	0.79	0.79
11,023	22,046	0.99	1	1.01	1.34	1.37	1.41	1.04	1.04	1.06	1.25	49.9	50	50.1	1.23	1.27	1.27
22,046	77,162	1.46	1.48	1.48	1.70	1.73	1.76	1.52	1.52	1.54	1.5	49.9	50	50.1	1.47	1.50	1.50
77,162	154,324	2.24	2.25	2.26	1.97	2	2.03	2.36	2.36	2.37	2.5	49.9	50	50.1	2.42	2.45	2.45



ANNEX E - Optional HMMWV tow provision upgrades

Optional HMMWV tow provision upgrades	
	**Bracket: 2540-01-599-0075** Screw: 5305-00-071-2071 (two per bracket) Locknut: 5310-01-548-1848 (two per bracket) Washer (unchanged from original configuration, not mandatory replacement): 5310-01-121-1703 (four per bracket).
	20K/30K HMMWV Tow Lug Assembly P/N: **10A0029** STANAG 4478, 1.4" Wide For 1" DIA Pin **10A0032** Approved Bolt in replacement for 3/4'" pin tow lug (OLD PRE-ECN, ¾" DIA Pin Approved for HMMWV's up to 5000KG/11,023lbs (ONLY) HMMWV Tow Lug 1.41" Wide HMMWV D-Ring lug

GTA 55-01-001
Never Assume!
Know the tow bars Capacity and (WLL) before you tow!

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William payson

William Payson
TRADOC
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