



TOW BAR SMART BOOK

APRIL 2016



**TRADOC Project Office
For Battlefield Recovery
(TPO-BR)
360 Lanyard BLVD
APG, MD 21005
410-278-3050/4474/4115**



Preface

The Tow Bars listed in this smart book are approved or conditionally approved for use by the Army and Marines.

The new 7K, 15K, 20K, 40K, 80K and 80K Stryker articulating tow bar in this smart book have been tested and currently in use by the Army.

The 110K and 180K Tank, 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 will have to 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:

[https://www.milsuite.mil/book/community/spaces/sustainnet/ordnance_community/maintenance_management/content?filterID=contentstatus\[published\]~category\[battlefield-recovery-bdar\]](https://www.milsuite.mil/book/community/spaces/sustainnet/ordnance_community/maintenance_management/content?filterID=contentstatus[published]~category[battlefield-recovery-bdar])

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

WARNINGS/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, injury or death.

WARNING: Do not move towing vehicle without assistance of ground guide. Ground guide must be visible to operator at all times. 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.

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 when towing is 15 mph (24 km/h). Terrain, weather and other conditions may require reduced speeds. Avoid sharp turns and grades greater than 20%. On paved roads, speeds may be increased to 25 mph if conditions permit. Failure to comply may result in damage to equipment, serious injury, or death.

WARNINGS/NOTES (con't)

WARNING: Safety Chains and Safety Straps with appropriate load rating must be installed when using tow bars. Chains should have safety clips on the hooks to prevent them from disconnection during towing operations. On chains without safety clips steel wire (lacing wire) can be used to secure the chain to the hook. Safety Chains/Straps must be connected only to frame 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.

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 vehicle technical Manual for guidance. Failure to comply may result in total loss of equipment, injury or death to personnel.

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 wrecker support.

Things to look for when inspecting and before using a tow bar

STOP

ASK Yourself these questions before using a tow bar

- ✓ Is the tow bar safe to use; does it have all the safety pins and clips? (If not do not use)
- ✓ Is the tow bar approved and have the Working Load Limit (WLL) to tow the disabled vehicle? (If not do not use)
- ✓ Is the towing vehicle equal to or greater than the weight of the vehicle being towed? (If not do not use)
- ✓ If performing a like-vehicle tow, are the brakes on the towed vehicle operable? (If not, call a wrecker)

- 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, especially the welds, for corrosion and cracks; if found, do not use the tow bar
- Check for bent or bowed tow bar legs; 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.
- 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.
- Inspect tow bar pin holes for deformation. If found, replace the component or do not use the tow bar.
- Tow bar adapters should not have more than ¼ to ½ inch side play when connected to vehicle tow provisions.
- Inspect tow bar adapters for cracks, damage and excessive wear. If found, replace the adapters.
- 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.

U.S. ARMY HEAVY DUTY TOW BAR

The US Army Heavy Duty Tow Bar (2912) does not have a Working Load Limit (WLL)
do not exceed the capacity of the of the End Item M88A1 when used.

NSN: 4910-01-267-2912

Weight: 300 LBS.

Length without adapter: 88 IN

Capacity: 112,000 LBS = (**weight of M88A1**)

No Working Load Limit (WLL)

End Item: M88A1 (HEMTT AAL)



ADAPTERS

***Comes with Tow Bar**

a. ***10-50 Ton Med Duty 5340-01-267-2908**



b. **2.5-10 Ton Light Duty 2540-00-863-3153**



This class of tow bar is best used on the following vehicles.

- M88A1
- M109A6/7
- HEMTT
- PLS
- MRAP
- M2/3
- M1A1 (62T)
- M915

U.S. ARMY HEAVY DUTY TOW BAR

The US Army Heavy Tow Bar (8595) does not have a Working Load Limit (WLL)
do not exceed the capacity of the of the End Item M88A2 when used.

NSN: 2540-01-434-8595

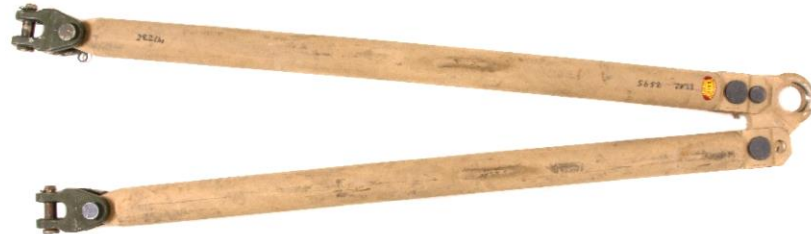
Weight: 282 LBS.

Length without adapter: 88 IN

Capacity: 139,000 LBS = (weight of M88A2)

No Working Load Limit (WLL)

End Item: M88A2 (HEMTT AAL)



ADAPTERS

***Comes with Tow Bar**

a. ***10-50 Ton Med Duty 5340-01-267-2908**



b. **2.5-10 Ton Light Duty 2540-00-863-3153**



This class of tow bar is best used on the following vehicles.

- M88A1/2
- M109A6/7
- M1A2SepV2 (74T)
- MRAP
- M2/3
- HEMTT

U.S. MARINE CORPS HEAVY DUTY TOW BAR

The US Marine Corps Heavy Tow Bar (3533) does not have a Working Load Limit (WLL), do not exceed the capacity of the of the End Item M88A1 when used.

NSN: 2540-01-558-3533

Weight: 300 LBS.

Length without adapter: 88 IN

Capacity: 112,000 LBS = (weight of M88A1)

No Working Load Limit (WLL)

End Item: LVSR Wrecker



NSN: 2540-01-591-5914

Packaged as a kit

LVSR 2540-01-558-4053 (2) (Not Shown) 7 Ton 2540-01-500-5325 (2)
HMMWV 2530-01-520-6537 (2) M809/939 2530-01-520-6538 (2)
Shackle 4030-01-504-7788 (4) I-V Air Line 4720-01-558-4772 (2)
I-V Elect Cable 6150-01-557-8101 (1) Safety Chain 4010-01-558-4681 (2)



This class of tow bar is best used on the following vehicles.

- M88A1
- M109A6/7
- M1A1 (60T)
- HEMTT
- MRAP
- M2/3
- LVSR
- MTVR

U.S. ARMY/MARINE MEDIUM DUTY TOW BAR

The US Marine Medium Duty Tow Bar (8356) is designed to be used in the extended position only.
Using this tow bar in the retracted (collapsed) position will cause damage.

NSN: 2540-01-496-8356

Weight: 226 LBS.

Length without adapter: 60 IN

Capacity (WLL): 83,000 LBS (Extended)

End Item: MTRV M36 Wrecker



Packaged as a kit

7 Ton 2540-01-500-5325 (2)

HMMWV 2530-01-520-6537 (2) M809/939 2530-01-520-6538

Shackle 4030-01-504-7788 (4) I-V Air Line 4720-01-558-4772 (2)

I-V Elect Cable 6150-01-557-8101 (1) Safety Chain 4010-01-558-4681 (2)



This class of tow bar is best used on the following vehicles.

- FMTV
- MRAP
- HMMWV (M998, M1114, M1151 & M1165)
- MTRV

U.S. ARMY Stryker TOW BAR

The Stryker Tow Bar (9227) is designed to be used ONLY with the Stryker FOVs. Using this tow bar on other vehicles will cause damage to the tow bar and towed vehicle due to not having the right towing angles.

NSN: 2540-01-517-9227

Weight: 150 LBS.

Length without adapter: 113 IN

Capacity (WLL): 50,000 LBS

End Item: Stryker, FOV



ADAPTERS

Comes with Tow Bar

Clevis, Rod End 5340-01-051-3609



This class of tow bar is best used on the following vehicles.

- Stryker Flat Bottom
- Stryker DVH

U.S. ARMY M113 TOW BAR

NSN: 2540-00-936-7801

Weight: 180 LBS.

Length without adapter: 86 1/2 IN

Capacity (WLL): 68,000 LBS

End Item: M113, FOV



ADAPTERS

Comes with Tow Bar

- a. Clevis, Rod End 5340-01-051-3609



- b. Clevis, Rod End 5340-01-046-4770



This class of tow bar is best used on the following vehicles.

- M113 FOV
- FMTV
- HMMWV (M998, M1114, M1151 & M1165)

U.S. ARMY MEDIUM DUTY TOW BAR

The US Army Medium Duty Tow Bar (7296) is designed to be used in the retracted (collapsed) position using it in the extended position may decrease towing capacity and may cause damage to tow bar and towed vehicle.

NSN: 4910-01-554-7296

Weight: 140 LBS.

Length without adapter: 60 IN

Capacity (WLL): 65,000 LBS (Retracted)

CAPACITY EXTENDED UNKNOWN

End Item: MTV, FOV



ADAPTERS

Comes with Tow Bar

- a. Clevis, Rod End 1 inch 5340-01-023-9801



- b. Clevis, Rod End ¾ inch 5340-01-022-4686



This class of tow bar is best used on the following vehicles.

- FMTV
- HMMWV (M998 & M1114)

U.S. MARINE LIGHT DUTY TOW BAR

The US Marine Light Duty Tow Bar is designed to be used in the retracted (collapsed) position only using it in the extended position may decrease towing capacity and may cause damage to the tow bar and towed vehicle.

NSN: 4910-01-365-9304

Weight: 140 LBS.

Length without adapter: 60 IN

Capacity (WLL): 39,000 LBS (Retracted)

CAPACITY EXTENDED UNKNOWN

End Item:



This Tow Bar has been discontinued for use by the U.S. Army and replaced with the 4910-01-554-7296 Medium Tow Bar.

ADAPTERS

Comes with Tow Bar

- a. Clevis, Rod End 1 inch 5340-01-023-9801



- b. Clevis, Rod End ¾ inch 5340-01-022-4686



This class of tow bar is best used on the following vehicles.

- HMMWV (M998 & M1114)

MODULAR ARTICULATING TOW BARS

- The 7K, 15K 20K 40K, 80K and the 80K Stryker tow bar are the only tow bars that have been tested and accepted for use.
- Data for the other articulating tow bars will be added to this smart book when it becomes available.
- These tow bars can be procured for use when GCSS-Army software is completed using MCN part numbers.
- Unit Commanders can procure the tow bar through the vendor (DPSG) (cage code 73T77) directly.

U.S. ARMY (7K) Modular Articulating TOW BAR

NSN: 2540-01-X40-7247

**MFG Part No. DP007 (COTS "20K Wunderbar")
DPSG Cage Code 73T77**

Weight: 23 LBS.

Length without adapter: 43 IN

Capacity (WLL): 7,000 LBS



The recommended use for this tow bar is with unique SOCOM and Airborne special purpose vehicles including ATV's.

ADAPTERS

Comes with Tow Bar

Clevis, Rod End $\frac{3}{4}$ inch P/N # 10P0130



U.S. ARMY (15K) Modular Articulating TOW BAR

NSN: 2540-01-C93-7036

**MFG Part No. DP1015 (COTS "15K
Wunderbar") DPSG Cage Code 73T77**

Weight: 62.2 LBS.

Length without adapter: 43 IN

Capacity (WLL): 15,000 LBS



The recommended use for this tow bar is with unique SOCOM and Airborne special purpose vehicles including ATV's and all wheeled vehicles below (15K GVWR).

ADAPTERS

Comes with Tow Bar

Clevis, Rod End 1 inch P/N # 10P0146



U.S. ARMY (20K) Modular Articulating TOW BAR

NSN: 2540-01-X40-8132

**MFG Part No. DP2020 (COTS "20K Wunderbar")
DPSG Cage Code 73T77**

Weight: 78.2 LBS. (with adapters)

Length without adapter: 51.8 IN

Capacity (WLL): 20,000 LBS



The recommended use for this tow bar is with unique SOCOM and Airborne special purpose vehicles and all wheeled vehicles below (20K GVWR) including HMMWV.

ADAPTERS

Comes with Tow Bar

Clevis, Rod End ¼ inch P/N 10P0138



U.S. ARMY (40K) Modular Articulating TOW BAR

NSN: 2540-01-X40-6823

**MFG Part No. DP4040 (COTS "40K Wunderbar")
DPSG Cage Code 73T77**

Weight: 126.5 LBS. (with adapters)

Length without adapter: 56.2 IN

Capacity (WLL): 40,000 LBS



The recommended use for this tow bar is with unique SOCOM and Airborne special purpose vehicles, HMMWV, JLTV and FMTV.

ADAPTERS

Comes with Tow Bar

Clevis, Rod End 1 ½ inch P/N 10P0154



U.S. ARMY (80K) Modular Articulating TOW BAR

NSN: 4910-01-628-0633

DPSG Cage Code 73T77 (COTS "80K Wunderbar")

Weight: 213 LBS. (with adapters)

Length without adapter: 64.4 IN

Capacity (WLL): 80,000 LBS



The recommended use for all wheel vehicles below (80K GVWR).

ADAPTERS

Comes with Tow Bar

Clevis, Rod End 1 ½ inch P/N 10P0164



U.S. ARMY (110K) Modular Articulating TOW BAR

NSN: 2540-01-X40-8249

**MFG Part No. DP0110 (COTS "110K Wunderbar")
DPSG Cage Code 73T77**

Weight: 237 LBS. (with adapters)

Length without adapter: 88 IN

Capacity (WLL): 110,000 LBS



The recommended use for this tow bar is any vehicle below (110K GVWR) to include the HEMTT, M2/3 Bradley and M109 Paladin.

ADAPTERS

Comes with Tow Bar

Clevis, Rod End 1 ½ inch P/N 10P0164



U.S. ARMY (80K) Stryker Modular Articulating TOW BAR

NSN: 2540-01-X40-8127

MFG Part No. DP8080 (COTS "Stryker Wunderbar")
DPSG Cage Code 73T77

Weight: 270.5 LBS. (with adapters)

Length without adapter: 112.75 IN

Capacity (WLL): 80,000 LBS



The recommended use for this tow bar is for any vehicles under (80K GVWR) that may require a longer tow bar such as the Stryker family of vehicles.

ADAPTERS

Comes with Tow Bar

Clevis, Rod End 1 ½ inch P/N 10P0164



U.S. ARMY (180K) Modular Articulating TOW BAR (Prototype)

NSN: 2540-01-X40-8247

MFG Part No. DP 0180 (COTS "Tank Wunderbar")

DPSG Cage Code 73T77

Weight: 324 LBS

Length without adapter: 113 IN

Capacity (WLL): 180,000 LBS



The recommended use for this tow bar is for towing the M1 Abrams and the M88A2.

ADAPTERS

Comes with Tow Bar

- a. Clevis, Rod End 1 1/2 inch P/N 10P0165



- b. Clevis, Rod End 2 1/4 inch P/N 10P0166



Tow Bar Pin's and safety clips

The following is pin and safety clip replacement data.

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

Safety Chains

The following safety chains/Strap 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)
2540-01-X40-8249	DP125K-SSC-13.5 FT	13.5 FT (Strap)

Tow Straps/Extraction Ropes

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

Tow straps can be used as safety chains with tow bars as long as 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 vehicle if the tow bar breaks.

Modular Articulating Tow Bar

The following is Adapter, pin and safety clip data for replacing adapters and lost pins or safety clips

Description	Tow Bar P/N	Material	Adapter P/N	Pin P/N	Truck Pin Dia	Klick Pin P/N	Status
7k Wunderbar	DP0007	Al	10P0130	10P0170	0.73	10H0012	STANAG
7k Wunderbar	DP0007	Al	10P0131	10P0170	0.73	10H0012	AUR**
7k Wunderbar	DP0007	Al	10P0132	10P0170	0.73	10H0012	AUR**
7k Wunderbar	DP0007	Al	10P0133	10P0171	1	10H0012	Dagor**
7k Wunderbar	DP0007	Al	10P0134	10P0171	1	10H0012	AUR**
7k Wunderbar	DP0007	Al	10P0135	10P0171	1	10H0012	Phantom Badger**
15k Wunderbar	DP0015	Steel	10P0142	10P0170	0.73	10H0012	AUR**
15k Wunderbar	DP0015	Steel	10P0143	10P0170	0.73	10H0012	AUR**
15k Wunderbar	DP0015	Steel	10P0144	10P0170	0.73	10H0012	HMMWV**
15k Wunderbar	DP0015	Steel	10P0145	10P0171	1	10H0012	AUR**
15k Wunderbar	DP0015	Steel	10P0146	10P0171	1	10H0012	STANAG
15k Wunderbar	DP0015	Steel	10P0147	10P0171	1	10H0013	AUR**
20k Wunderbar	DP2020	Steel	10P0136	10P0160	0.73	10H0012	AUR**
20k Wunderbar	DP2020	Steel	10P0137	10P0160	0.73	10H0012	AUR**
20k Wunderbar	DP2020	Steel	10P0138	10P0160	0.73	10H0012	HMMWV
20k Wunderbar	DP2020	Steel	10P0139	10P0161	1	10H0012	AUR**
20k Wunderbar	DP2020	Steel	10P0140	10P0161	1	10H0012	STANAG
20k Wunderbar	DP2020	Steel	10P0141	10P0161	1	10H0012	AUR**

Modular Articulating Tow Bar

The following is Adapter, pin and safety clip data for replacing adapters and lost pins or safety clips

Description	Tow Bar P/N	Material	Adapter P/N	Pin P/N	Truck Pin Dia	Klick Pin P/N	Status
40k Wunderbar	DP3020	Steel	10P0148	10P0170	0.73	10H0012	Bent**
40k Wunderbar	DP3020	Steel	10P0149	10P0171	1	10H0012	AUR**
40k Wunderbar	DP3020	Steel	10P0150	10P0171	1	10H0012	Sherpa**
40k Wunderbar	DP3020	Steel	10P0151	10P0171	1	10H0012	AUR**
40k Wunderbar	DP3020	Steel	10P0152	10P0172	1.476	10H0015	AUR**
40k Wunderbar	DP3020	Steel	10P0153	10P0172	1.476	10H0015	AUR**
40k Wunderbar	DP3020	Steel	10P0154	10P0172	1.476	10H0015	STANAG
80k Wunderbar	4910-01-628-0633	Steel	10P0157	10P0170	0.73	10H0012	Bent**
80k Wunderbar	4910-01-628-0633	Steel	10P0158	10P0171	1	10H0013	AUR**
80k Wunderbar	4910-01-628-0633	Steel	10P0159	10P0171	1	10H0013	AUR**
80k Wunderbar	4910-01-628-0633	Steel	10P0160	10P0171	1	10H0013	AUR**
80k Wunderbar	4910-01-628-0633	Steel	10P0161	10P0172	1.476	10H0015	AUR**
80k Wunderbar	4910-01-628-0633	Steel	10P0162	10P0172	1.476	10H0015	AUR**
80k Wunderbar	4910-01-628-0633	Steel	10P0163	10P0171	1	10H0013	STANAG**
80K Wunderbar	4910-01-628-0633	Steel	10P0164	10P172	1.476	10H015	STANAG*
The 110K and 80K Stryker tow bar use the same adapters and pins as the 80K							
80T Wunderbar	DP0180	Steel	10P0165	10P0173	1.476		Tank STANAG
80T Wunderbar	DP0180	Steel	10P0166	10P0174	2.25		Tank STANAG

*Above STANAG 4478 GVWR
 ** Available Upon Request (AUP)

Know before you tow

