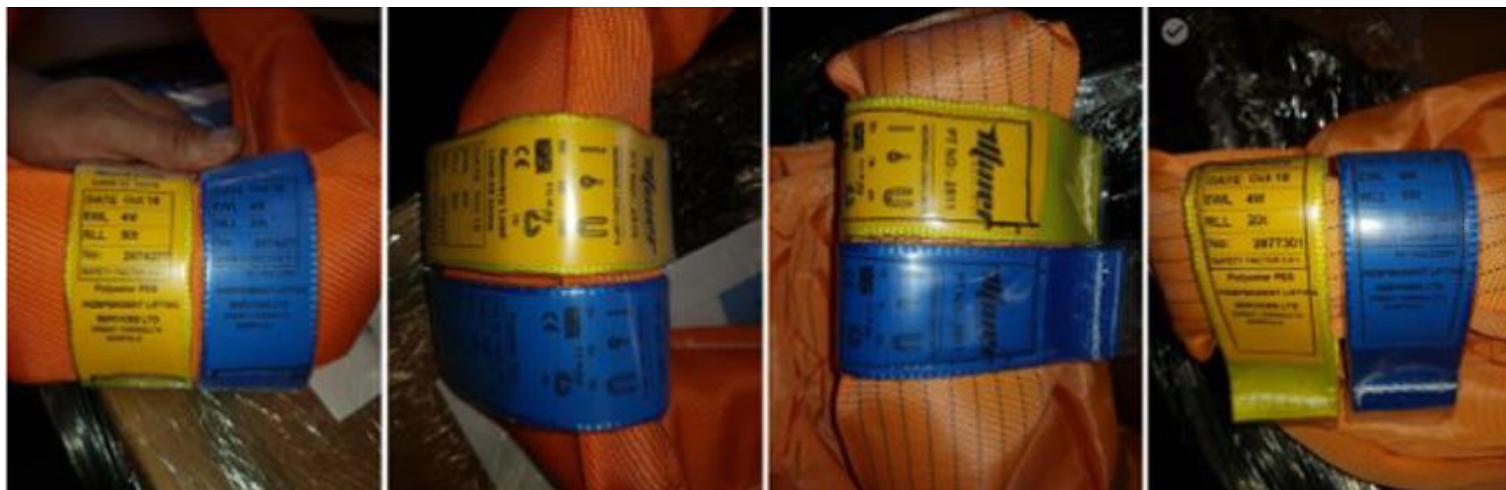


Informasjon om «Dual-rating» av Bergings- og løfteredskap på Forsvarets Bergingsvogn

KTF medlemsmøte
Drammen 09.10.2024



Kjartan Iversen

-
- Forsvaret anskaffer nye hjulbergingsvogner.
 - Det er Rheinmetal Military Vehicles (RMMV) som er leverandør. Miller Industries er underleverandør og leverer bergingspåbygget















CE Declaration of Conformity

According to EC Machinery Directive 2006/42/EC

Manufacturer:		Miller Industries Towing Equipment, Inc. 8503 Hilltop Drive Ooltewah, TN 37363 United States of America of America	
Description:		Vehicle Recovery System Vehicle Recovery System	
Model:	Norway RV1	Serial Number:	RV1-0001-J20
Model:	TR 200	Serial Number:	359524
Model:	HZ 090	Serial Number:	374929
When Model:	HZ 090	Serial Number:	374930

- Bergingsvogna med vinsjer, bommer, støttebein, hydraulikk og øvrig konstruksjon er ihht Maskindirektivet.
- Det foretas sakkyndig kontroll hver 12, mnd på dette.....

The following relevant Harmonized Standards have been complied with:

- EN 12999:2020 Cranes – Loader Cranes
- EN 14492-1:2006+A1:2009 Cranes. Power driven winches and hoists - Power driven winches
- EN 14492-2:2019 Cranes. Power driven winches and hoists - Power driven hoists

The following Standard has been referenced in the design of the equipment:

- BS 7901:2002 Specification for recovery vehicles and vehicle recovery equipment

The authorised representative located within the Community is:

Jige International
25 Rue Depot, 55800 Revigny-Sur-Ornain, France
Tel: 33-329751010

The Technical Construction File required by this Directive is maintained at the corporate headquarters of Miller Industries Towing Equipment, Inc., 8503 Hilltop Drive, Ooltewah, TN 37363, United States. This technical file can be viewed at Jige International.

Declaration:

As the manufacturer of the above whole recovery system, we declare that the above machinery conforms to the Council of European Communities Directive relating to machinery, 2006/42/EC, and amendments which are in power as of today's date.

Signed:

Position: Director, Quality & Regulatory Assurance, Miller Industries Towing Equipment, Inc.

Date: day month year

The original declaration has been given to the initial Customer by Miller Industries Towing Equipment, Inc. It should be kept in a safe place for reference.

Når det gjelder det løst bergingsredskap på bergingsvogn;

- Maskindirektivet sier at kjettinger, stropper ol. som er beregnet for trekk ikke reguleres av maskindirektivet, og skal ikke CE-merkes
- Dersom dette utstyret er beregnet både for trekk og løft, reguleres det av maskindirektivet, og skal CE-merkes

- Vanlig sikkerhetsfaktor for bergingsredskap 2:1
- Bergingsbransjen i Norge har prøvd å lage beskrivelser på hvordan dette utstyret skal merkes (med bla bruddstyrke og ikke wll) og kontrolleres, men markedet er så lite at det er nesten ingen forhandlere som tilbyr utstyr som er merket som «bergingsredskap»
- I praksis har dette gjort at bergingsstroppe, sjakler, kjettinger, hjelpewirer osv på bergingsvogner i Norge ikke inngår som en del av den sakkyndige kontrollen. Det har i beste fall blitt tellet og registrert at det er der.
- Det er også ingen tvil om at kassasjonsbestemmelsene blir strukket lenger på bergingsredskap, spesielt fiberredskap, enn på løfteredskap



- Forsvaret har kravstilt at alt tilhørende utstyr for å gjøre de beskrevne oppgavene skal ha fast plass i skap som er beskyttet fra vær og vind
- Det er mer enn 3 tonn med løst utstyr på bergingsvogna.....
- Det ble etter hvert vanskelig å finne nok skaplass.....
- Dette løste leverandøren med at noen av stroppene og sjaklene fikk dobbel merking, og dermed kunne de samme stroppene brukes både til berging og løft.....

.....Men er dette lovlig, da?.....

- Arbeidstilsynet ble rådført, de sier at dette er tillatt hvis dette er beskrevet i bruksanvisningen fra produsent og at iflg guiden til maskindirektivet så skal «dual rated» redskap CE-merkes og det dekkes av maskindirektivet.

The MITE Handbook for:-

The Dual rating of recovery accessories
for lifting and/or winching in Europe.



Preface

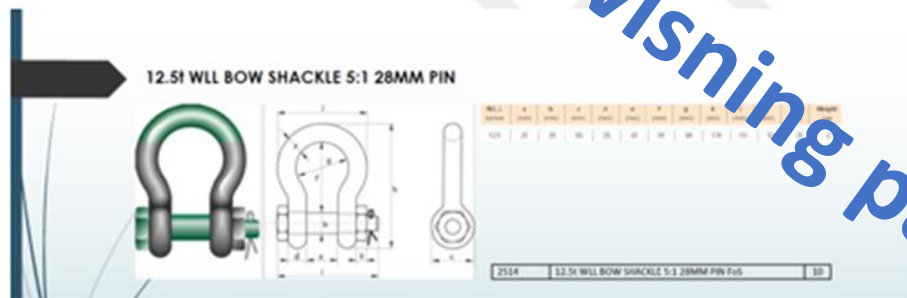
The dual rating of equipment for recovery and lifting has been used for many years within the vehicle recovery industry. The first recorded use we can find is from the 1960s, but the principle was well known before this.

This handbook records the current thinking at Miller Industries Towing Equipment (MITE) in meeting the many requirements within Europe for lifting/winching accessories used with a Rotator meeting the requirements of EN12999 and EN14492.

Dual rating definition

Dual rating can be defined as the use of equipment to carry out lifting and winching tasks at different ratings.

For instance, a simple lifting shackle: -



Rated at 12.5t for lifting (the SWL) = 31.25t for winching (the RLL)

The "breaking load" of the shackle is $5 \times 12.5t = 62.5t$ so the safety factor is 2:1 for recovery.

The breaking load is described as the load where the part does not break but can yield such that it is unusable but not broken such that it "let's go" of the load.

Definition of lifting and winching

There can be some debate regarding what constitutes lifting and what does not.

EN14492-2 states that a hoist is a machine for lifting and lowering loads, freely suspended or guided or supported on inclined planes, over predetermined distances, with or without trolleys.

This seems a reasonable approach and that is what MITE follows.

Winching is defined within EN14492-1 as machines designed for the lifting and lowering of loads which are suspended on hooks or other load handling devices, or for the moving (pulling and lowering) of loads on inclined planes, or the exclusive pulling of loads on planes which are normally horizontal.

They use ropes, chains or belts wound in one or more layers onto a drum, or ropes in traction sheave drives.

Again, this seems reasonable and is understandable.

Put more simply: -

Lifting is when the whole item leaves the ground by external means, winching or boom up. Lifting a container or vehicle for instance.



Winching is where the item does not leave the ground – rolling over a vehicle for instance as below:-



Current International Standards

MITE has not found a Standard that **does not** explicitly allow the use of lifting equipment at higher loads for winching.

MITE also understands the viewpoint that lifting equipment should not be used at higher loads for winching however this cannot be found anywhere in current Standards.

All lifting equipment gives a rating for lifting. MITE recommends that twice the working load limit be considered for winching only. Again, this makes the maths easier for the operator to calculate the rigging required. The ratings must be clearly shown.

EN 14492-1:2006+A1:2009 Cranes. Power-driven winches and hoists. Power-driven winches @ para 5.15.6 gives "the working coefficient for the first rope layer shall be at least 2." This can then be matched for the equipment fitted to the end of the rope when winching.

Directive 2006/42/EC is a revised version of the Machinery Directive, the first version of which was adopted in 1989. The new Machinery Directive has been applicable since 29th December 2009. The Directive has the dual aim of harmonising the health and safety requirements applicable to machinery on the basis of a high level of protection of health and safety, while ensuring the free circulation of machinery on the EU market. The revised Machinery Directive does not introduce radical changes compared with the previous versions. It clarifies and consolidates the provisions of the Directive with the aim of improving its practical application.

Directive 2009/104/EC of 16 September 2009 concerning the minimum safety and health requirements for the use of work equipment by workers at work is a single directive within the scope of the OSH Framework Directive. The Directive codifies and repeals Directive 89/655/EEC which had been substantially amended several times.

Thorough examination and discard criteria

There is no need to reinvent the wheel regarding thorough examination and discard criteria, this should always default to the highest level for lifting equipment. Usually, there is no heavy wear associated with vehicle recovery operations, these are not normally carried out all day every day unless you are a training school. Within industry, vehicle recovery is not the heaviest user of the equipment.

MITE suggests that the "in-country" or "local rules" for the inspection and discard criteria for lifting equipment are used for recovery equipment.

This ensures that a proper regime of thorough examination and testing is followed at regular intervals.

MITE has a minimum requirement of a recorded thorough examination every 12 months with the operator carrying out a visual prior-to-use and post-use inspection at every use.

MITE requests that each operator of the equipment is "rigging trained" sufficient to ensure that the correct equipment is calculated to be used and that the operator is able to ascertain if the equipment is safe to use regarding loads transmitted and the condition of the equipment.

Certification and Technical Manuals

Certification and technical manuals must be issued as follows: -

Certification showing the lifting and winching capacities for the equipment supplied. Where practical the parts will be supplied with generic lifting manuals including inspection and discard criteria. Note: this information seems mostly generic in nature.

Environmental conditions

Generally, the climate for this equipment is given within the requirements but as standard the equipment is rated to IP65 minimum as protection for electrical equipment. The normal temperature range for standard equipment is -32°C to +49°C but this can be changed to suit individual applications.

Training and familiarisation

Operators and maintainers including inspectors should be aware of the dual use of the equipment and understand the safety implications.

The safety criteria should never be reduced for recovery from lifting, the highest level of safety is required using recovery equipment.

Fiberstropper

4 stk 2,5m x 12 t løft (SF:7) og 24,0 t trekk (SF:3,5)

4 stk 6,0m x 12 t løft (SF:7) og 24,0 t trekk (SF:3,5)

2 stk 5,0m x 25 t løft (SF:7) og 50,0 t trekk (SF:3,5)





Typical labelling on a snatch block



COMPLY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
001 001 1

Crosby
Crosby Europe NV
Levermolen 11
2580 Pans (Machelen) Belgium
www.thecrosbygroup.com

EC Declaration of Conformity

in accordance with EC Machinery Directive 2006/42/EC

Certificate Number: CC-4-2024012200214
 Location of Issue: Crosby Europe (UK) Ltd
 Station Street, Croydon Heath
 West Midlands B64 6AJ, United Kingdom
 Phone: 01226 290516 Fax: 01226 240118

Stock No: 3603626
 Description of Gear: 417 8" BB Alloy Snatch Block w/ Shackle 16mm Wireline 1 indicates metric tonnes
 Working Load Limit: 10t
 Comments: 4:1 Design Factor
 Note: Crosby snatch blocks meet or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. With the below signature by composer of the technical file for above mentioned CE marked product, we hereby declare compliance with the applicable essential Health and Safety requirements of EU Machinery Directive 2006/42/EC. Has not been contaminated by Mercury or Asbestos in the manufacturing process.

Number of Pieces: 48
 Generic certificate based on item being the Crosby product described above.

Mentioned products are in conformity to the Crosby literature available at the time of manufacture. We hereby certify that the above described material was manufactured and processed in a manner compatible to meeting the specified load ratings when used under normal and proper applications. This product at the time of manufacture does not contain any ozone-depleting substances. This product at the time of manufacture does not exceed the threshold for any of the hazardous listed chemicals in Appendix 1 of MEPC 200/80/2015 Gradelines

Fatigue Rated CE

For Product Delivered To: ASHLEY SLING INC
 10722 DUTCOTOWN RD
 3000 64 AVE SE
 KNOXVILLE, TN 37932 USA

Crosby Order Number: 995117
 Customer (User) Order Number: 417435

Date: January 22, 2024
 Date of Issuance

Signature: *William H. Johnson*
 William H. Johnson, Quality Assurance

Typical certificate for snatch blocks

Snatch Block

The Snatch block model **Type 28.27.123** has been designed and tested according to:

- EN 14492
- Machine Directive 2006/42/EC
- EN ISO 12100
- EN - ISO 13850
- Sepson's internal design and test standard

Working load limit (WLL)	300 kN
Max pulling force	600 kN
Max. rope diameter	Ø 26 mm

Vansbro Aug 18, 2022
Sepson AB



Ulf Jons
Sr. Product Manager

Sepson AB, Box 23, SE-780 50 Vansbro, Sweden

Phone: +46 28175840 | Fax: +46 28171009 | info@sepson.se | www.sepson.se | Moms/vatreg no: SE55635369201



Sepson kasteblokk 30 t løft(SF4) 60 t trekk (SF2)

Antall: 1 stk pr. bergingsvogn





- Bildet viser tårnløft på stridsvogn, der 60 tonns kasteblokken blir benyttet som «balanse-åk» sammen med en 26 mm Dynema fiberstropp
- Vekten på tårnet er ca 17 tonn.
- Dette er et løft som skal være mulig å utføre med Rec1, men vil normalt utføres med traverskran på verksted, og da blir ikke kasteblokken benyttet.
- Normalt skal kasteblokken benyttes til berging.
- En sjelden gang, kan det være aktuelt å løfte dette beskrevne løftet av et stridsvogntårn



- Forsvaret har i påvente av god dokumentasjon rundt de dobbelmerkede bergingsredskapene vært igjennom flere interne og eksterne diskusjoner rundt dette temaet.
- Det er flere som ser for seg at dette kan være med på å bidra til å få en bedre kontroll på det løse bergingsredskapet.
- Noen frykter at det blir «fritt frem» å bruke «slepetau» til løft
- Ved å velge denne løsningen vil det være samme kassasjonskriterier på bergingsstroppe som for løftestroppe – man ser for seg at kvaliteten på bergingsstroppe stiger.
- Sikkerhetsfaktoren på bergingsstroppe av fiber vil øke fra dagens 2:1 til 3,5:1
- Arbeidsgiver(Forsvaret) ser det som en fordel at også det løse bergingsutstyret blir underlagt periodisk sakkyndig kontroll
- Forsvarsmateriell (FMA) har besluttet å innføre dobbelmerket redskap på den nye bergingsvognen.

Spørsmål?