

HEAVY GROUND MOBILITY SYSTEM TECHNICAL INFORMATION

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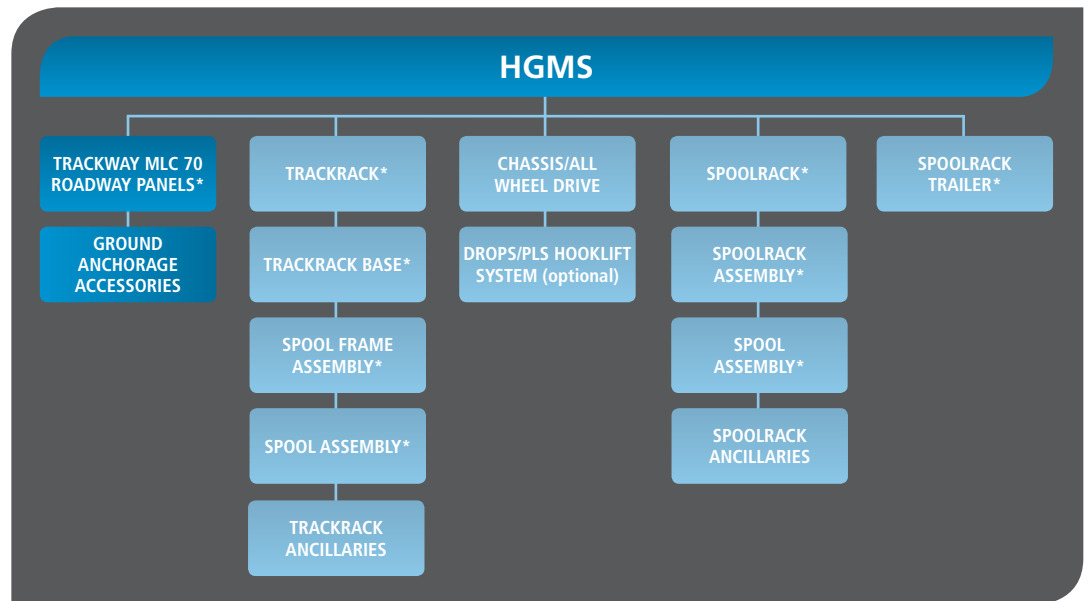


HGMS TRACKWAY

TRACKWAY SYSTEM INTEGRATION

Heavy Ground Mobility System (HGMS) TRACKWAY is an aluminium alloy roadway. TRACKWAY can be deployed and recovered rapidly using a TRACKRACK or by hand.

A complete Heavy Ground Mobility System (HGMS) consists of the following items: (*NATO codified)



TRACKWAY MLC 70 DESIGN PRINCIPLE

- TRACKWAY is the name for FAUN aluminium roadway panels.
- TRACKWAY panels are rated to MLC 70 and are part of the Heavy Ground Mobility System.
- The TRACKRACK can lay and recover 50m of TRACKWAY. An additional 50m of TRACKWAY can be stored on each SPOOLRACK, and then transferred to the TRACKRACK when required.

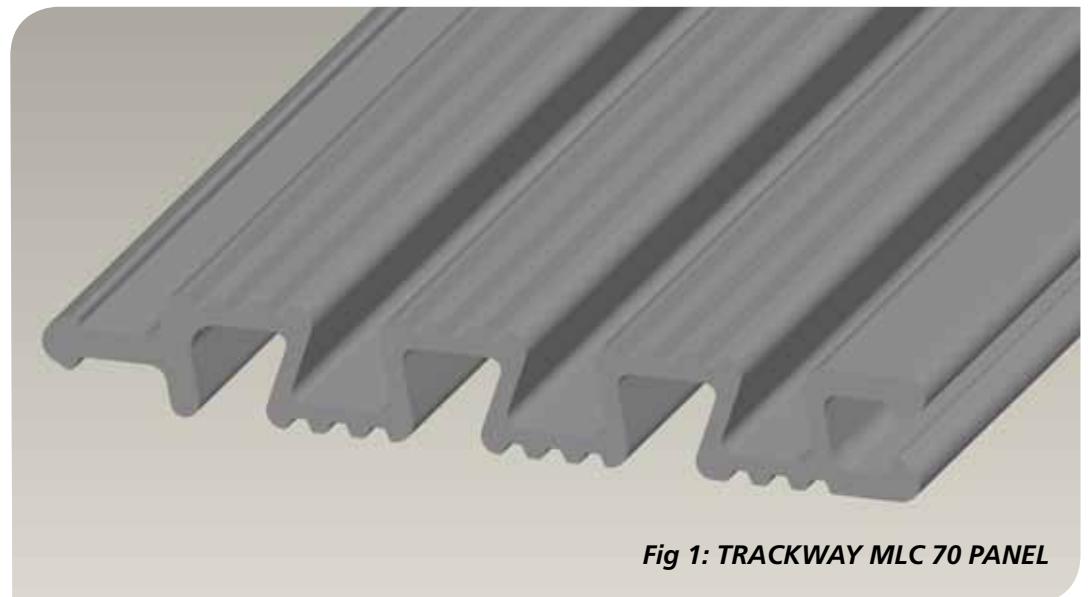


Fig 1: TRACKWAY MLC 70 PANEL

FAUN TRACKWAY

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TRACKWAY MLC 70 OPERATIONAL PRINCIPLE

TRACKWAY is made up of aluminium panels which link using a sliding joint and are locked together using quick release shoot bolts. The assembled TRACKWAY rolls up for storage and transportation.

TRACKWAY MLC 70 panels are connected using a male and female t-slot forming an articulated joint which enables the TRACKWAY to be laid on undulating ground.

TRACKWAY permits wheeled or tracked vehicles to traverse soft ground without bogging down or causing severe damage to the ground surface.

TRACKWAY MLC 70 has half panels at 5m intervals to allow for easy splitting and joining.

TRACKWAY MLC 70 WEIGHT AND DIMENSIONS

	Single full panel	Single half panel	Complete roadway (50m)
Width	4,572mm (15ft)	2,286mm (7ft 6in)	4,572mm (15ft)
Length	228mm (9in) overall 212mm (8¼in) effective	228mm (9in) overall 212mm (8¼in) effective	54.72m (179ft 6in) overall 50m (164ft) effective
Height	31mm (1¼in)	31mm (1¼in)	31mm (1¼in)
Area	1.042m ² (11.25ft ²)	0.521m ² (5.5ft ²)	228.5m ² (2,459.5ft ²)
Weight	33.11kg (73lbs)	16.6kg (36½lbs)	7,946kg (17,482lbs) 163kg per linear metre (110lbs per linear ft) 34.2kg per m ² (7lbs per ft ²)
Panels	231 full length panels per 50m	18 half length panels per 50m	240 rows of panels 498 locking bolt assemblies
Finish	Powder coated or anodised to eliminate glare from reflective surface	Powder coated or anodised to eliminate glare from reflective surface	Powder coated or anodised to eliminate glare from reflective surface
Composition	Aluminium alloy	Aluminium alloy	Aluminium alloy



**Fig 2: FULL AND HALF LENGTH
MLC 70 TRACKWAY PANELS**

TRACKWAY MLC 70 GROUND ANCHORAGE ACCESSORIES

Name	QTY
Clamp, junction	2
Strap, transit/holdfast	2
Adaptors, end	4
Stakes, ground anchor	12
Chains, holdfast	4
Shackle, steel SWL 2t	8
Shackle, steel SWL 1.5t	4
Hammer, sledge 14lbs	1

Anchorage comprises of a holdfast chain with steel stakes hammered through the chain links into soft ground. A chain is shackled to one end of a holdfast strap which in turn is connected to edge holes of the TRACKWAY by shackles.

Anchorage is recommended where there is a side or longitudinal slope.

Junction clamps can be used to connect one length of TRACKWAY to another to create multiple roadways.

Accessories are placed inside the lockers built into the TRACKWAY.



Fig 3: HOLDFAST CHAIN WITH STEEL STAKES



Fig 4: HGMS WITH TRAILER MOUNTED SPOOLRACK



Fig 5: SPOOL TO SPOOL TRANSFER



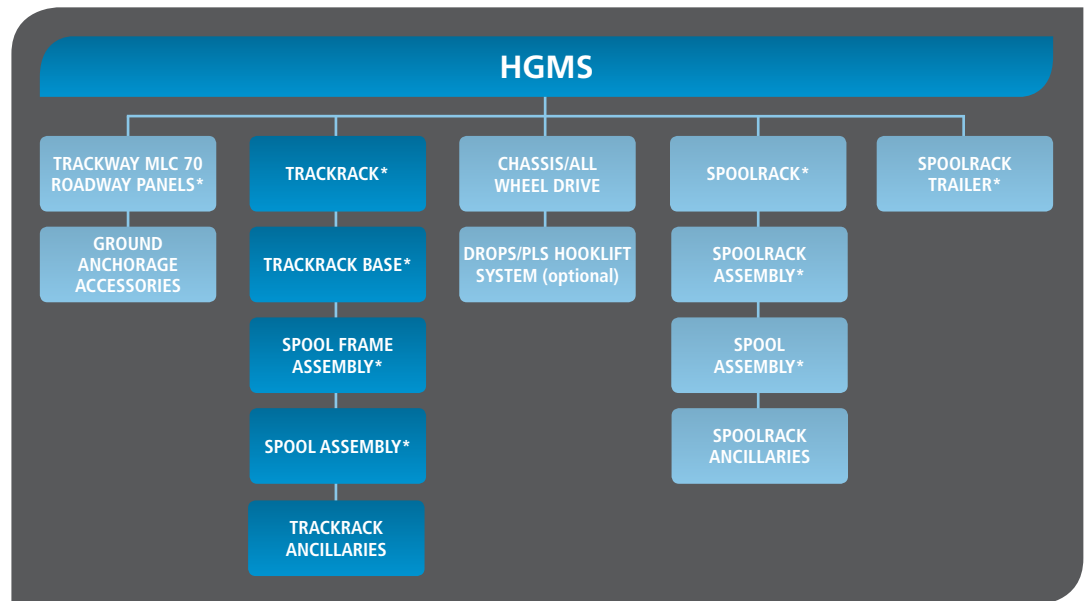
Fig 6: HOOKLIFT SYSTEM

HGMS TRACKRACK

TRACKRACK SYSTEM INTEGRATION

Heavy Ground Mobility System (HGMS) TRACKRACK is a DROPS/PLS or chassis mounted deployment and recovery system for MLC 70 TRACKWAY. TRACKRACK rapidly deploys and recovers the roadway using minimal manpower.

A complete Heavy Ground Mobility System (HGMS) consists of the following items: (*NATO codified)



TRACKRACK DESIGN PRINCIPLE

- TRACKRACK facilitates the rapid deployment and recovery of TRACKWAY.
- TRACKRACK DROPS/PLS base is designed to STANAG 2413, DIN 30722 – 1 & 2 and ISO 668.

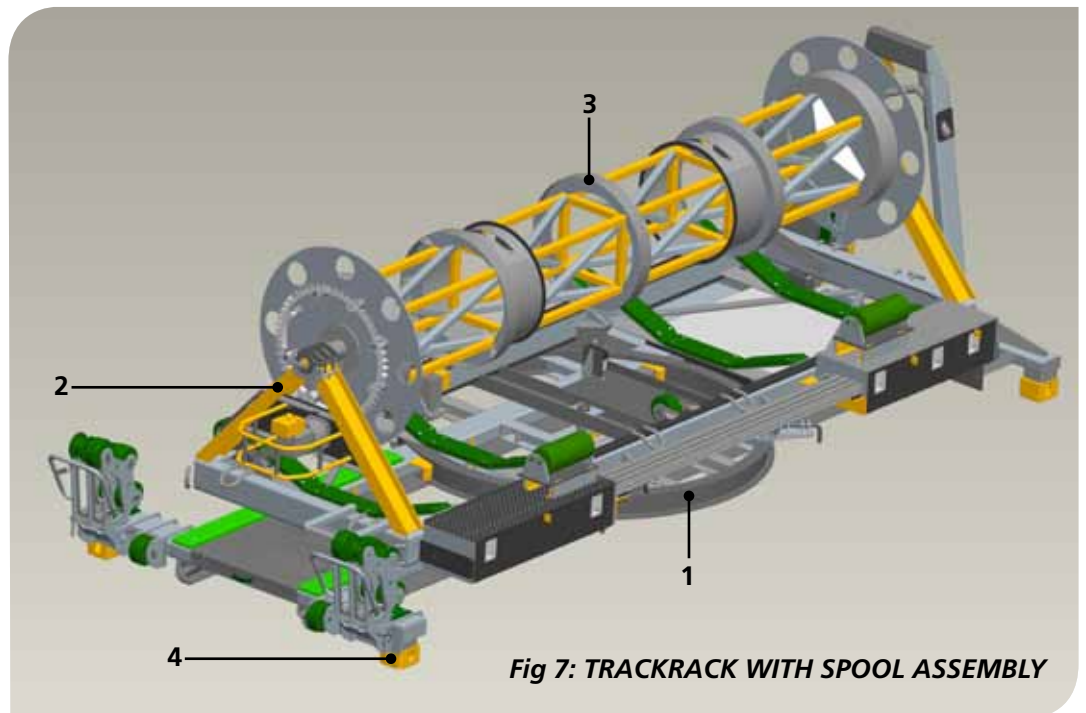


Fig 7: TRACKRACK WITH SPOOL ASSEMBLY

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TRACKRACK CONSTRUCTION

TRACKRACK consists of:

1. **TRACKRACK BASE:** a hook lift frame with turntable ring supported on longitudinal and transverse members with rear rollers.
2. **SPOOL FRAME ASSEMBLY:** a rectangular frame with central pivot locations supported on four double rollers TRACKWAY panel guide rollers and bearers for support during deployment.
3. **SPOOL ASSEMBLY:** a braced steel structure onto which a maximum length of 50m TRACKWAY aluminium panels are rolled. The SPOOL ASSEMBLY has a pair of deployment chains attached to the spool for safe and easy deployment and recovery of the TRACKWAY panels.
4. **ISO 668 TWISTLOCK RECEIVERS:** incorporated into the four corners of the main frame so that the TRACKRACK can be secured to and transported on a vehicle with ISO fastenings. Tie down loops on the TRACKRACK provide additional security during transit.

TRACKRACK OPERATIONAL PRINCIPLE

The SPOOL FRAME ASSEMBLY rotates through 90 degrees from the transit position to the laying position. Rotation of the SPOOL FRAME ASSEMBLY is by a hydraulic motor with a pinion engaging in a rack.

Hand operated locks secure the SPOOL FRAME ASSEMBLY in either the transit or laying position.

Hinged rollers are lowered to ensure the aluminium TRACKWAY panels pass smoothly under the rear wheels of the chassis. The vehicle reverses to lay the TRACKWAY under constant tension.

TRACKRACK CONTROL

The control pendant is used for all functions.

In the event of an electrical failure the hydraulic valves can be operated manually.

In the event of a hydraulic failure a hand pump can be operated to release the brake and hydraulic lock valves.



*Fig 8: TRACKRACK/
SPOOLRACK CONTROL
PENDANT*

TRACKRACK ASSEMBLY WEIGHT AND DIMENSIONS

	Including spool and roadway panels	
Width	2,472mm	(8ft)
Length	6,519mm	(21ft 5in)
Height	2,370mm	(7ft 8in)
Weight	12,700kg	(27,999 lbs)
Finish	NATO green IRR / CARC coating available / Custom colour available	

TRACKRACK ANCILLARIES

The following ancillary equipment is provided with each TRACKRACK necessary for safe and straight forward deployment.

Name	QTY	Name	QTY
Handle, tool panel	2	Stick, directional (red)	2
Rope, hand line fibre, single leg	2	Cable, pendant extension	1
Straps, laying	2	Pendant, hand held	1
Rods, sighting (orange and white)	6	Pump, emergency hand	1

Three stowage lockers are built into the TRACKRACK to store the equipment securely.

OPTIONAL ANCILLARIES

Name	QTY	Name	QTY	Name	QTY
Pendant, wireless	1	Charger, wireless	1	Inverter, 24-240 AC/DC	1
Pendant, IR	1	Charger, IR	1	Inverter, 24-240 AC/DC	1

TRACKRACK CYCLE TIMES

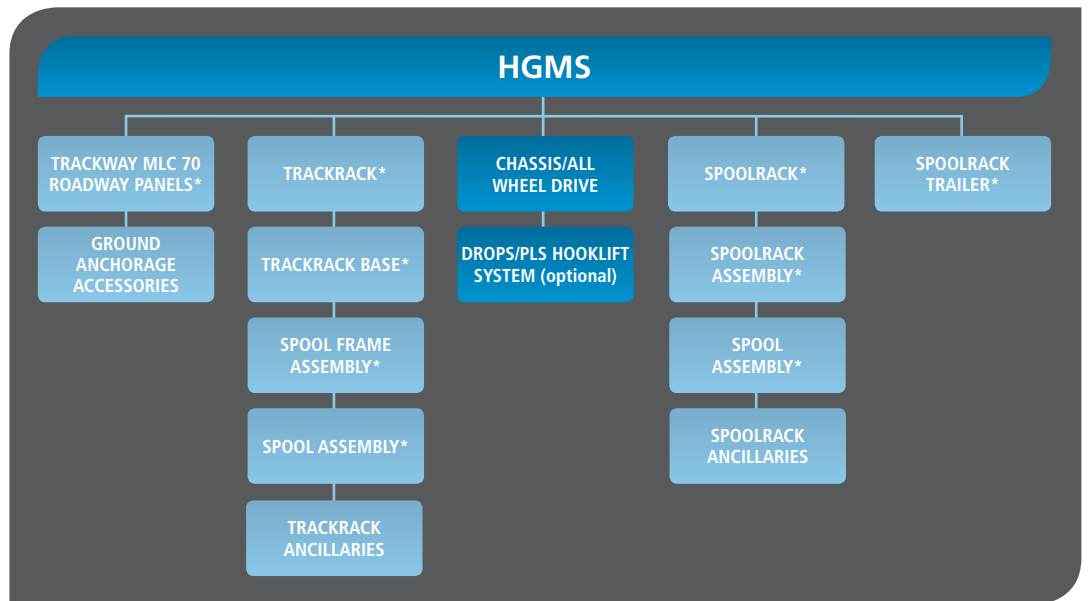
Stage	Process	Time: daylight conditions	Time: night conditions
Pre-lay preparation	1. Rotate SPOOL FRAME ASSEMBLY to laying position (turn 90°)	<3 minutes	4 minutes
Laying	2. Lay 50m TRACKWAY using constant tension	<4 minutes	<4 minutes
Total time		<7 minutes	<8 minutes
Total personnel		Two	Two

Pre-recovery	3. Connect end adaptors and position TRACKWAY into pre-recovery position	<3 minutes	4 minutes
Recovery	4. Recover 50m TRACKWAY	<4 minutes	<4 minutes
Post-recovery	5. Rotate SPOOL FRAME ASSEMBLY to transit position (turn 90°) and attach transit straps.	2 minutes	4 minutes
Total time		<9 minutes	<12 minutes
Total personnel		Two	Two

Videos of the laying and recovery process are available from: www.faustrackway.co.uk

HGMS CHASSIS

A complete Heavy Ground Mobility System (HGMS) consists of the following items: (*NATO codified)



TRACKRACK CHASSIS REQUIREMENTS

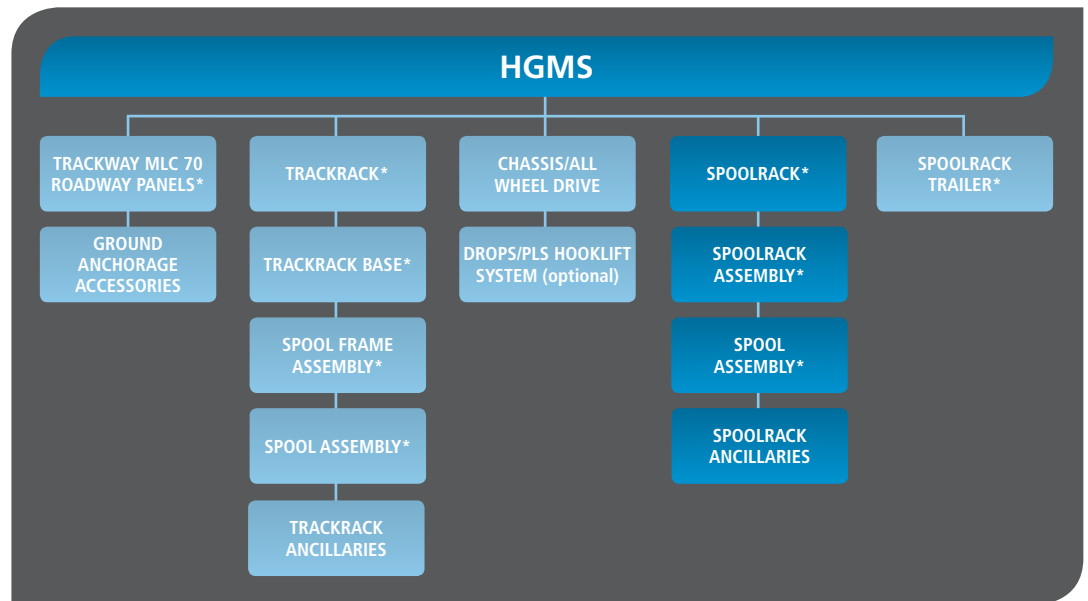
Type	<p>8 wheel all drive (8x8)</p> <p>6 wheel all drive (6x6)</p> <p>Preferably with differential/cross locks.</p> <p>Dependant on local law for axle capacities and chassis configuration, weight and operational conditions.</p> <p>Subject to consultation with FAUN engineering.</p>
Minimum payload	12,700kg (dependant upon chassis configuration)
Electrical requirements	Any pre-defined electrical connection can be used, 24V 10A supply and earth required. Location at rear of chassis preferred.
Hydraulic requirements	<p>Constant drive power take off (PTO)</p> <p>220bar hydraulic pressure</p> <p>Constant hydraulic flow – 60 l/min required</p> <p>Separate drain line recommended</p> <p>Any pre defined hydraulic couplings can be used; location at the front left hand of chassis preferred. Other locations can be considered.</p>
Oil requirements	<p>Oil viscosity range – 12 - 75 mm²/s (65 - 347 SUS)</p> <p>Max. allowed degree of contamination (ISO 4406, 1999 version): 23/19/16</p>

HGMS SPOOLRACK

SPOOLRACK SYSTEM INTEGRATION

Heavy Ground Mobility System (HGMS) SPOOLRACK is a transportation system for additional 50m roll of TRACKWAY. SPOOLRACK enables the TRACKWAY to be rapidly transferred to the TRACKRACK for deployment and recovery.

A complete Heavy Ground Mobility System (HGMS) consists of the following items: (*NATO codified)



SPOOLRACK DESIGN PRINCIPLE

- SPOOLRACK transports, stores and transfers an additional 50m length of TRACKWAY to the TRACKRACK for deployment. SPOOLRACK can be trailer mounted for easy transportation behind the chassis mounted TRACKRACK.
- SPOOLRACK allows multiple lengths of TRACKWAY to be stored and transported on multiple SPOOLRACKS, using only one TRACKRACK to deploy and recover each length. This is the most rapid method of laying multiple lengths of TRACKWAY.
- SPOOLRACK is designed to STANAG 2413, DIN 30722 – 1 & 2 and ISO 668.

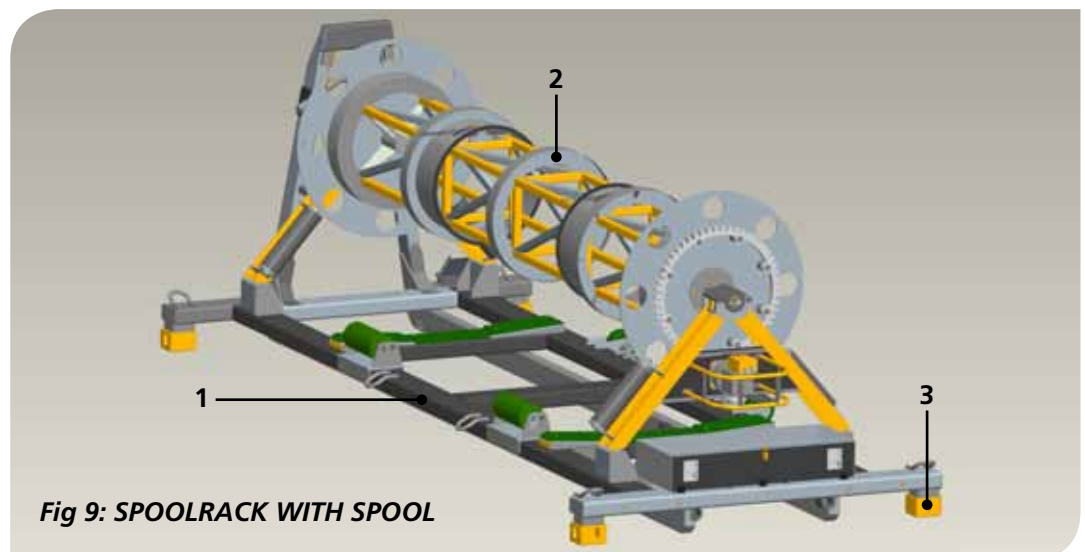


Fig 9: SPOOLRACK WITH SPOOL

SPOOLRACK CONSTRUCTION

SPOOLRACK consists of:

- 1. SPOOL RACK ASSEMBLY:** a rectangular hook lift frame with TRACKWAY panel guide rollers and bearers for support during deployment.
- 2. SPOOL ASSEMBLY:** a braced steel structure onto which a maximum length of 50m TRACKWAY aluminium panels are rolled.
- 3. ISO 668 TWISTLOCK RECEIVERS:** incorporated into the four corners of the SPOOLRACK for transportation. SPOOLRACK also has tie down loops for additional security during transit.

SPOOLRACK OPERATIONAL PRINCIPLE

SPOOLRACK stores an additional spool of TRACKWAY MLC 70 panels (up to 50m).

When the TRACKRACK has deployed 50m of TRACKWAY, the TRACKRACK is aligned with the SPOOLRACK to begin 'SPOOL to SPOOL' transfer. TRACKWAY panels are under constant tension throughout the transfer.

Once the transfer is complete, the TRACKRACK can dispense an additional 50m of TRACKWAY. The additional TRACKWAY section can be joined to TRACKWAY laid previously using half panels (optional extra).

This process can be repeated until the desired road length is achieved.

SPOOLRACK can be used with DROPS/PLS systems for transportation.

SPOOLRACK can also be mounted direct to an ISO 668 trailer without DROPS/PLS system using any mobile or overhead crane.

SPOOLRACK CONTROL

SPOOLRACK takes its hydraulic power by connecting hoses with quick release couplings to the TRACKRACK.

Red sighting rods are provided to ensure the operators align the TRACKRACK and SPOOLRACK correctly to allow transfer of the TRACKWAY.



Fig 10: SIGHTING RODS IN USE TO ENSURE CORRECT ALIGNMENT BETWEEN TRACKRACK AND SPOOLRACK

SPOOLRACK WEIGHT AND DIMENSIONS

	Including spool and roadway panels	
Width	2,462mm	(8ft)
Length	6,050mm	(19ft 10in)
Height	2,250mm	(7ft 4in)
Weight	10,700kg	(25,389lbs)
Finish	NATO Green IRR CARC Coating available Custom colour available	

SPOOLRACK GROUND ANCHORAGE ACCESSORIES

Name	QTY
Clamp, junction	2
Strap, transit/holdfast	4
Adaptors, end	4
Stakes, ground anchor	12
Chains, holdfast	4
Shackle, steel SWL 2t	8
Shackle, steel SWL 1.5t	4

Anchorage comprises of a holdfast chain with steel stakes hammered through the chain links into soft ground. A chain is shackled to one end of a holdfast strap which in turn is connected to edge holes of the TRACKWAY by shackles.

The holdfast straps are tensioned to pull the anchorage into position. Anchorages are recommended where there is a side or longitudinal slope.

Junction clamps can be used to connect one length of TRACKWAY to another.

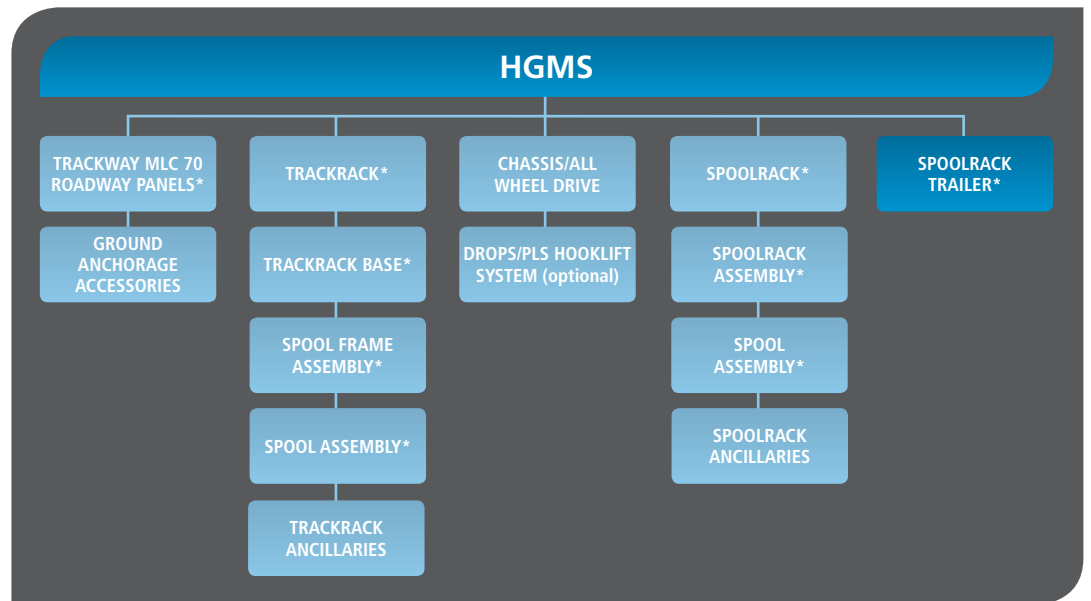
Accessories are stored inside the single stowage locker built into the SPOOLRACK.

SPOOLRACK CYCLE TIMES

Stage	Process	Time: daylight conditions	Time: night conditions
Pre-transfer process	<ol style="list-style-type: none"> 1. Park TRACKRACK next to SPOOLRACK 2. Use sighting rods to set distance 3. Connect hydraulic hoses from SPOOLRACK to TRACKRACK 	<5 minutes	<6 minutes
Transfer	<ol style="list-style-type: none"> 4. Engage PTO 5. Unwind chains from empty spool 6. Release transit straps 7. Connect chains to end adaptors 8. Begin transfer using slow speed 9. Disconnect end adaptors from spool chains and secure 	<5 minutes	<8 minutes
Post-transfer	<ol style="list-style-type: none"> 10. Disengage PTO, switch off engine 11. Disconnect hydraulic hoses and stow away 	<5 minutes	<6 minutes
Total time		<15 minutes	<20 minutes
Total personnel		Two	Two

HGMS SPOOLRACK TRAILER

A complete Heavy Ground Mobility System (HGMS) consists of the following items: (*NATO codified)



SPOOLRACK TRAILER REQUIREMENTS

Size	6.09m (20ft) x 2.5m (8ft 3in) with ISO 668 twistlocks
Minimum payload	10,700kg (25,389lbs)
Other	Requires air suspension/stabilisers, NATO connections and an extending draw bar



Fig 11: SPOOLRACK, SPOOL ASSEMBLY and TRACKWAY mounted onto trailer

HGMS GENERAL INFORMATION

SERVICE AND SPARES

- Worldwide training available
- Basic service requirements due to low maintenance system
- Spares kits available
- Service Level Agreement
- FAUN Zoeller (UK) Ltd are assessed and certified in accordance with the requirements of BS EN ISO 9001:2008.

DOCUMENTATION

HGMS is supplied with the following documentation in English as standard. Translation into local language and/or alternative formats can be provided upon request.

- Field manual
- Workshop manual

OPTIONAL EXTRAS

- Customised to individual needs upon request
- Water pump for cleaning
- Ground anchoring equipment
- Camouflage netting
- Remote control
- Alternative connection method

ENVIRONMENT

- FAUN Zoeller (UK) Ltd are assessed and certified in accordance with the requirements of BS EN ISO 14001:2004.
- Waste and the consumption of resources (materials, fuel, water and energy) are kept to a minimum throughout the manufacturing process.
- Design engineers consider how the products will be recycled, re-used and disposed of using certified disposal routes.
- HGMS is 95% recyclable.

PLEASE NOTE

- All weights specified are based upon the TRACKWAY panels being free from mud and other debris.
- All timings given are based upon trained operators and assume level conditions.
- Contents subject to change without prior notification.



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