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TRUCK UTILITY HEAVY (T.U.H.) 4x4 REYNOLDS BOUGHTON ALL VARIANTS

PURPOSE AND PLANNING INFORMATION

BY COMMAND OF THE DEFENCE COUNCIL

W. J. Gindler
Ministry of Defence

PUBLICATIONS AUTHORITY
Land Systems Technical Publications Authority
Royal Arsenal West, Woolwich, SE18 6ST

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PURPOSE AND PLANNING INFORMATION

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PREFACE

Sponsor: LSOR3

INTRODUCTION

1. Service users should forward any comments on this publication through the channels prescribed in AESP 0100-P-011-013.
2. The subject matter of this publication may be affected by Defence Council Instructions (DCIs), Standing Operating Procedures (SOPs) or by local regulations. When any such Instruction, Order or regulation contradicts any portion of this publication it is to be taken as the overriding authority.

RELATED PUBLICATIONS

3. The Octad for the subject equipment consists of the publications shown below. All references are prefixed with the first eight digits of this publication.

CATEGORIES AND INFORMATION LEVELS														
Category	1	2	3	4		5				6	7		8	
Level				1	2	1	2	3	4		1	2	1	2
1 USER/OPERATOR	101	201	201	*	*	*	*	*	*	601	711	*	*	*
2 UNIT MAINTENANCE	*	*	302	*	*	512	522	532	*	*	*	*	*	*
3 FIELD MAINTENANCE	*	*	302	*	*	512	522	532	*	*	*	*	*	*
4 BASE MAINTENANCE	*	*	*	*	*	512	524	532	*	*	*	*	*	*

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| 1.0 Purpose & Planning Information | 5.3 Inspection Standards |
| 2.0 Operating Information | 5.4 Calibration Procedures |
| 3.0 Technical Description | 6.0 Maintenance Schedules |
| 4.1 Installation Instructions | 7.1 Illustrated Parts Catalogue |
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| 5.1 Failure Diagnosis | 8.1 Modification Instructions |
| 5.2 Repair Instructions | 8.2 General Instructions |

* Not Published

Reference to relevant Group Index (see AESP 0100-A-001-013) must be made to ensure the availability of the listed publications.



U5805/1

**GS Cargo dropside - $\frac{3}{4}$ view front
(w/winch)**



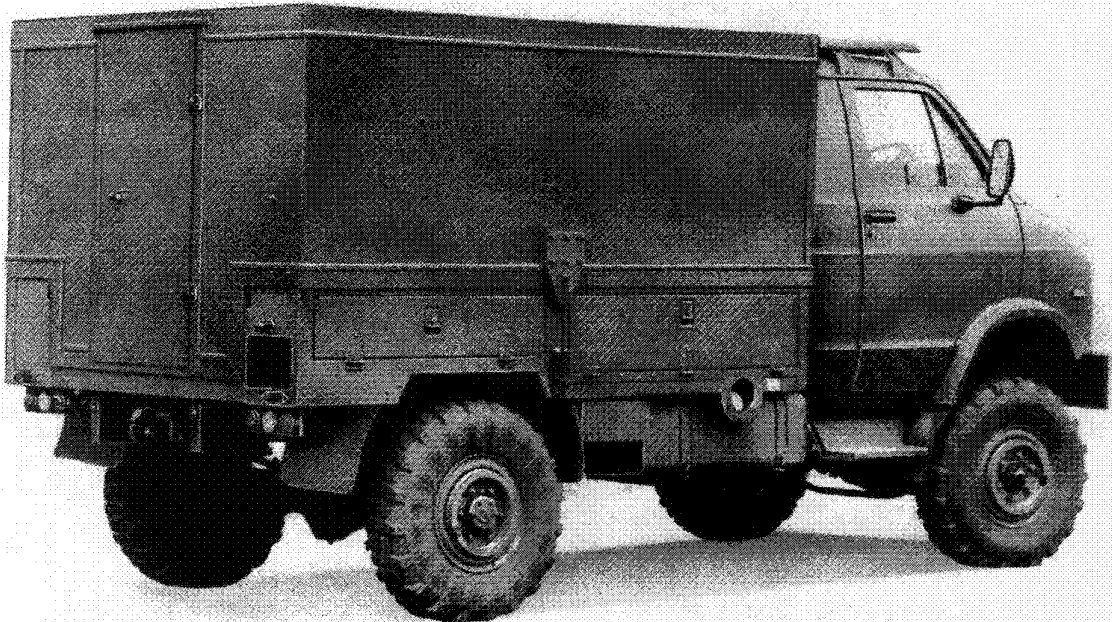
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**GS Cargo dropside - $\frac{3}{4}$ view rear
(w/winch)**



U5805/3

FFR Hard top - 3/4 view front



U5805/4

FFR Hard top - 3/4 view rear



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**FFR Soft top - $\frac{3}{4}$ view front
(canopy removed)**



U5805/6

**FFR Soft top - $\frac{3}{4}$ view rear
(canopy removed)**



U5085/11

FFR TCB Carrier - 3/4 view front



U5805/12

FFR TCB Carrier - 3/4 view rear

PURPOSE AND PLANNING INFORMATION

EQUIPMENT IDENTITY

1. Designation

TRUCK UTILITY GS CARGO

Vehicle Asset code NYK

TRUCK UTILITY FFR HARD TOP

Vehicle Asset code NYK

TRUCK UTILITY FFR SOFT TOP

Vehicle Asset code NYK

TRUCK UTILITY FFR TCB CARRIER

Vehicle Asset code NYK

ROLE

2. The Truck Utility Heavy Duty is required to fulfil a wide range of roles for many different units within the Services.

3. When used as support vehicles the requirement is for cross country mobility coupled with manoeuvrability and ease of concealment whilst carrying a payload of up to 2 tonne.

4. The vehicles are also required to undertake a number of cross country towing tasks including pulling trailers of up to 1.5 tonne payload, and acting as a tractor and limber vehicles for the 105 mm Light Gun.

5. The FFR variants will act as communication links, direction finders, fire support centres etc and will be required to locate themselves on high ground for long periods. Good mobility and manoeuvrability is required to reach these positions and once there ease of concealment is an obvious necessity.

DESCRIPTION

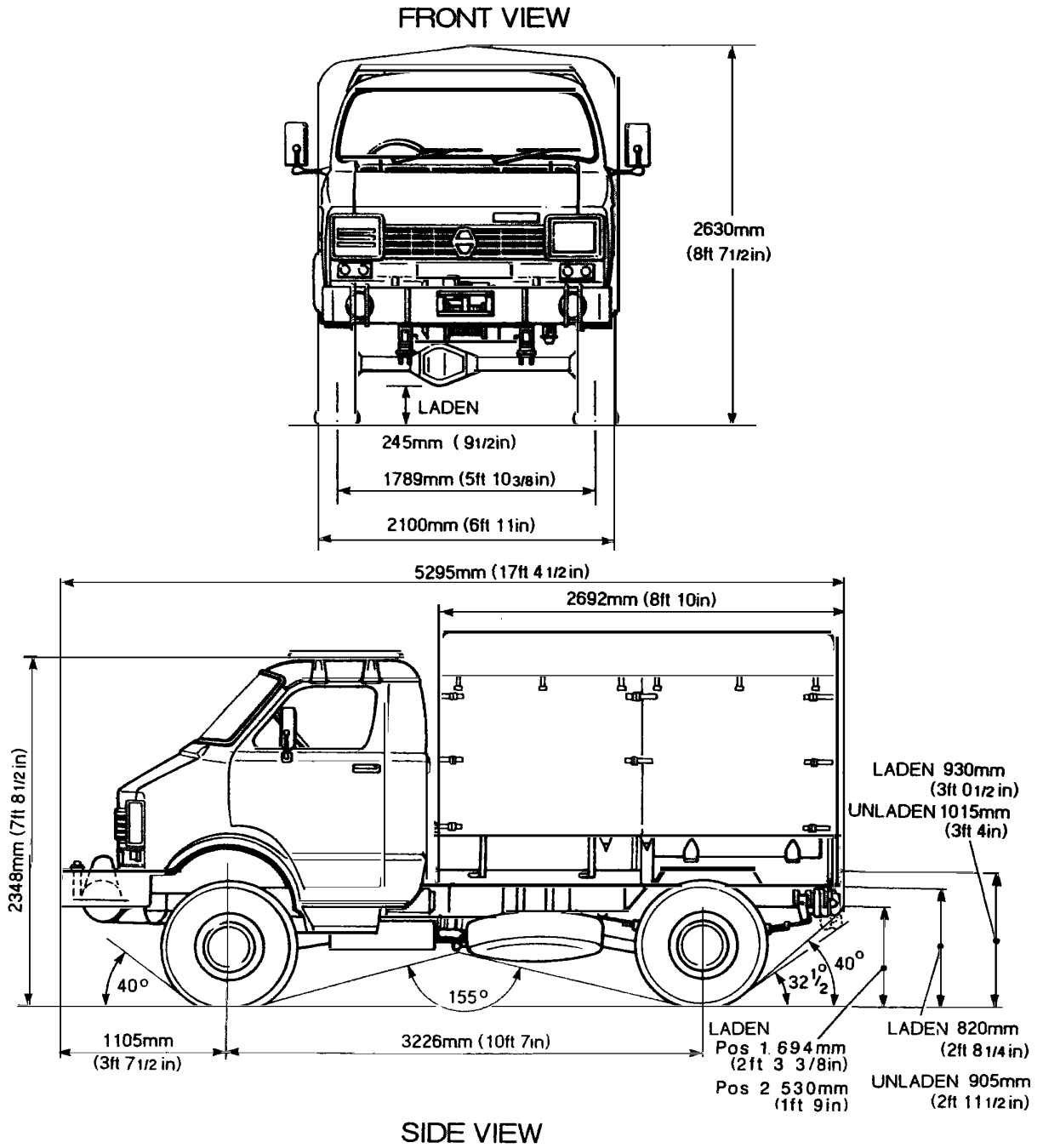
6. The basic vehicle is a 4 wheeled type with drive to all four wheels, a third differential is provided in the Transfer Box to prevent inter-axle wind-

DESCRIPTION

6. The basic vehicle is a 4 wheeled type with drive to all four wheels, a third differential is provided in the Transfer Box to prevent inter-axle wind-up, and the means for locking this is within the driver's control.
7. A Perkins 4 cylinder diesel engine with turbo-charger is fitted in all variants and power is transmitted through a 5 speed manual gearbox via a 2 speed transfer gearbox.
8. The vehicle cab has a semi-forward control layout accommodating a driver and two passengers.
9. There are four variants of the basic vehicle as follows:
- 9.1 GS Cargo dropside with tailgate and polyester tilt.
 - 9.2 FFR Hard top which has an aluminium body with a rear door and no windows, it has a Radio battery storage compartment with an external door.
 - 9.3 FFR Soft top is similar to the GS Cargo variant but the tilt has movable flaps in the roof area to cover the antenna positions when not in use, the Radio battery storage is the same as the FFR Hard top.
 - 9.4 TCB FFR Carrier is similar to the GS Cargo but will carry the electronic systems in a Transportable Container Body fitted to the chassis.

PHYSICAL DATA**10. Dimensions (Fig 1 to 4)**

Length overall (with winch)		5.304 m (17 ft 5 in)
Length overall (without winch)		5.060 m (16 ft 6 in)
Width overall		2.130 m (6 ft 10 in)
Height overall		
GS Cargo	(Unladen)	2.630 m (8 ft 7 ¹ / ₂ in)
FFR Hard top		2.348 m (7 ft 8 ¹ / ₂ in)
		+32 mm Roof Platform
		(Laden)
FFR Soft top		2.630 m (8 ft 7 ¹ / ₂ in)
TCB FFR		2.692 m (8 ft 10 in)

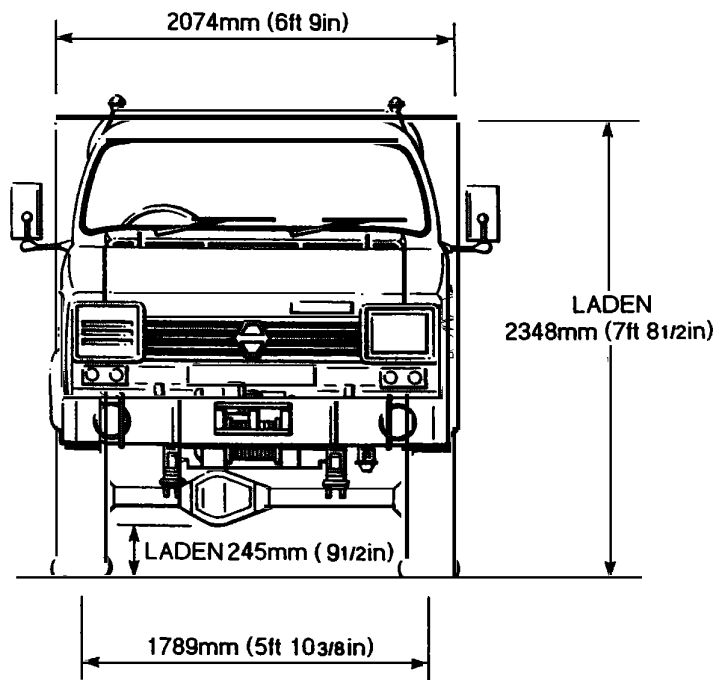


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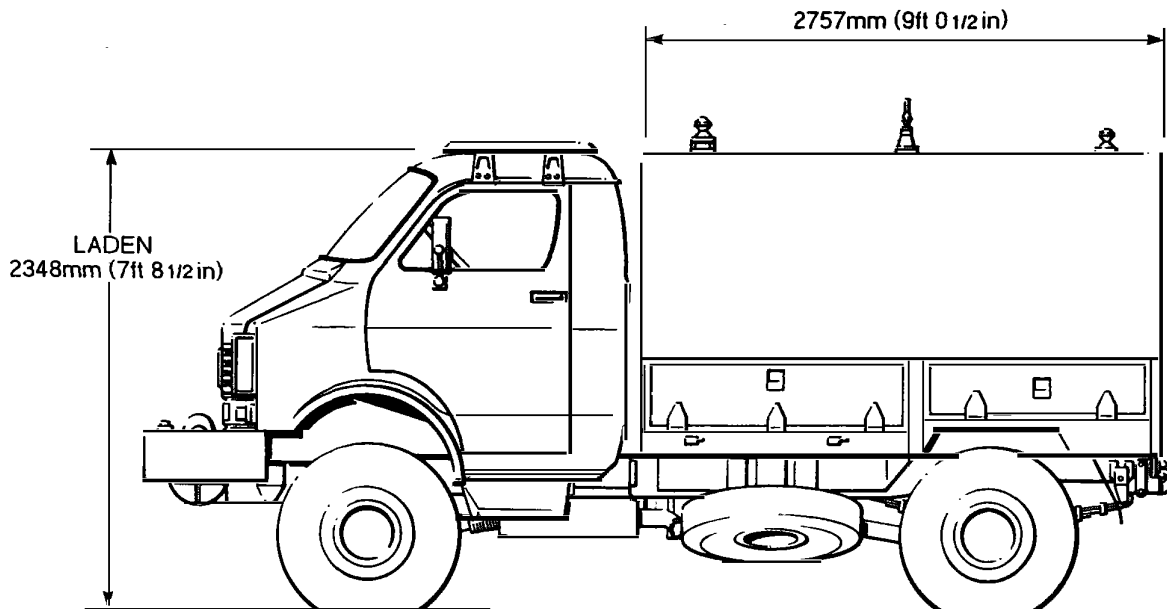
TUH GS CARGO 12V - WITH WINCH

Fig 1 Vehicle main dimensions - Cargo dropside w/winch

FRONT VIEW



TUH FFR. HARDTOP - WITH WINCH
SIDE VIEW



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Fig 2 Vehicle main dimensions - FFR Hard top

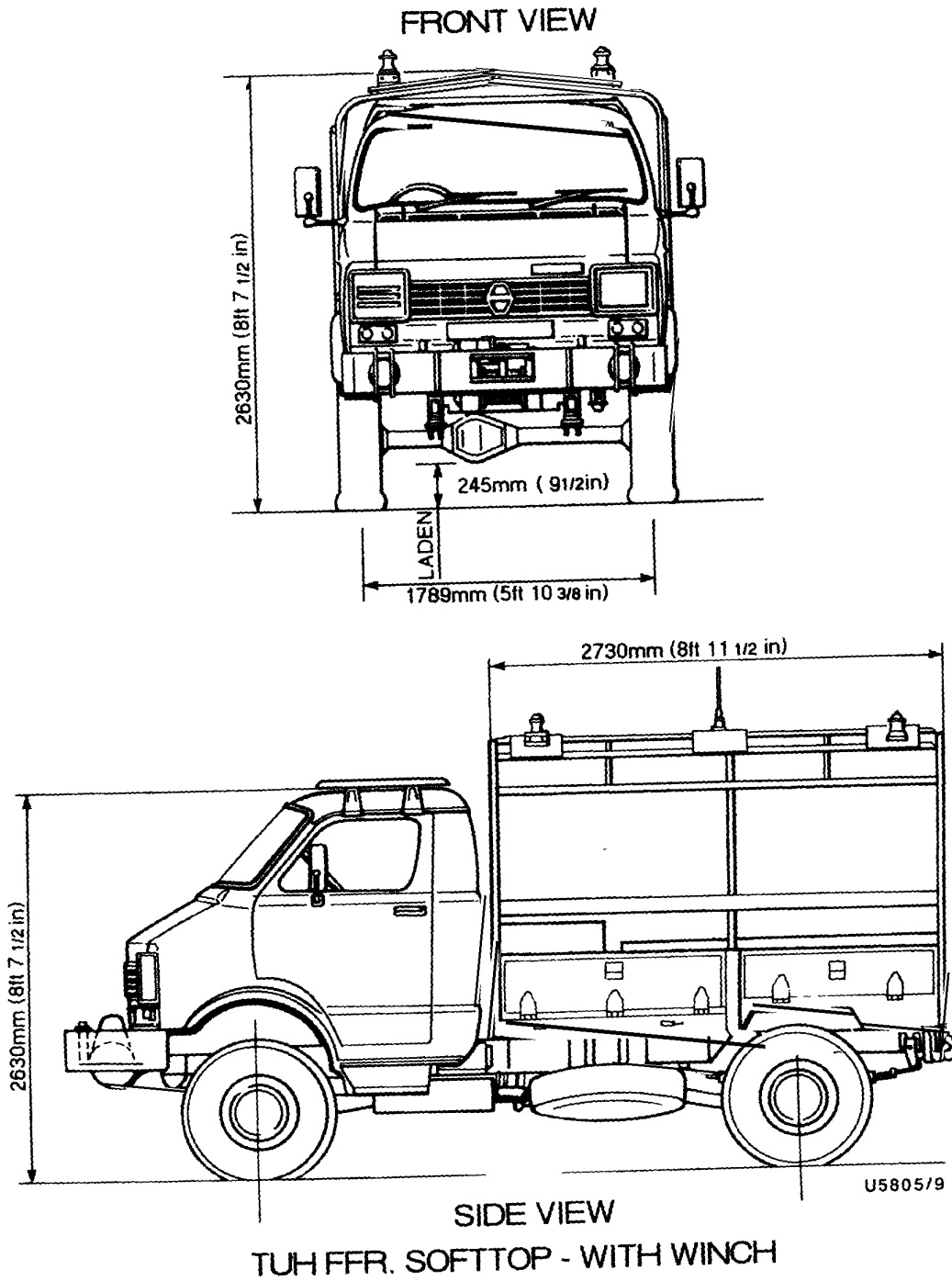
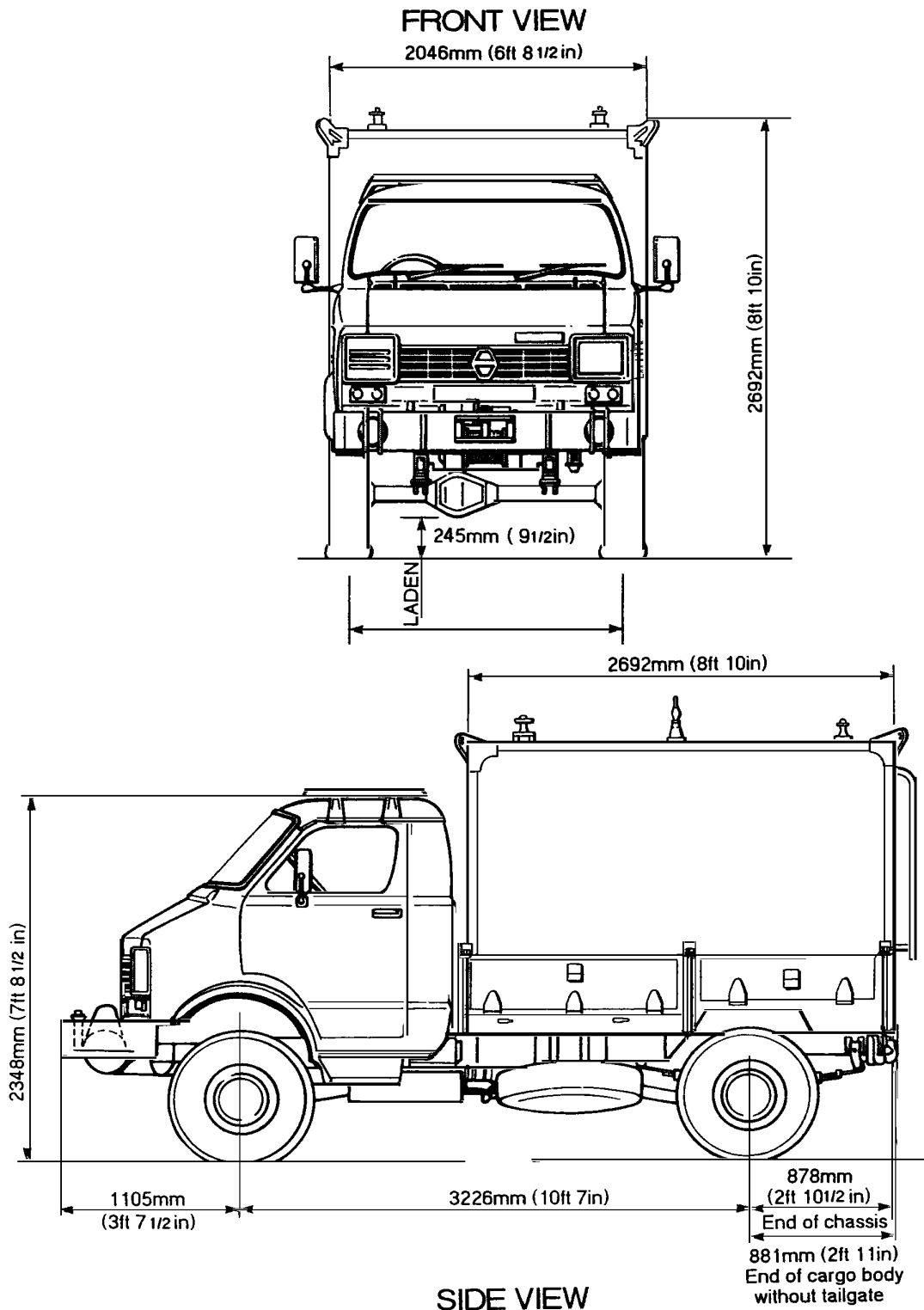


Fig 3 Vehicle main dimensions - FFR Soft top



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TUH WITH FFR TCB - WITH WINCH

Fig 4 Vehicle main dimensions - FFR TCB

Ground clearance under axles

Front	245 mm (0 ft 9 ¹ / ₂ in)
Rear	235 mm (0 ft 9 ¹ / ₄ in)

Wheel track

Front	1789 mm (5 ft 10 ³ / ₈ in)
Rear	1790 mm (5 ft 10 ³ / ₈ in)

Wheelbase

3.226 m (10 ft 7 in)

Load platform height (unladen)

1.015 m (3 ft 3 in)

Towing hook height

Pos(1) Without 180 kg preponderance (Laden)	704 mm (2 ft 3 ³ / ₄ in)
With 180 kg preponderance (Laden)	694 mm (2 ft 3 ³ / ₈ in)
Pos(2) Without 60 kg perponderance (Laden)	534 mm (1 ft 9 in)
With 60 kg perponderance (Laden)	530 mm (1 ft 9 in)

11. Capacities

Cooling system

Total	23 litres (5 gals)
Radiator	9.4 litres (2.1 gals)
Header tank	3.35 litres (0.74 gals)
Engine	4.5 litres (1 gal)

Fuel tank	128 litres (28 gals)
Engine oil sump	12 litres (2.6 gals)
Gearbox	4.5 litres (1 gal)
Transfer box	3.4 litres (6 pints)
Front axle	3.1 litres (5.5 pints)
Rear Axle	3.1 litres (5.5 pints)
Steering	2 litres (3.5 pints)
Winch gearcase	2.5 litres (4.5 pints)
Hydraulic reservoir	25.0 litres (44 pints)

12. Engine

Perkins Phaser 110 MT, 4 cylinder in-line 4 stroke diesel type with direct injection. Capacity is 4.0 litres and is turbocharged. Cooling system is liquid cooled, pressurized 50 kPa (7.4 lbf/in²) with semi-sealed header tank.

13. **Gearbox** 5 speed Spicer T5-290.
14. **Clutch** Borge and Beck hydraulically operated single plate clutch.
15. **Transfer box** Reynold Boughton 2 shaft gearbox with high and low ratios, silent chain drive with PTO unit.
16. **Axle (front)** Rigid axle, fully floating shafts incorporating CV joints Final drive Hypoid 4.1:1 ratio.
17. **Axle (rear)** Rigid axle, fully floating half shafts, Hypoid 4.1:1 ratio.
18. **Suspension** Multi-leaf springs at each wheel station with double acting hydraulic telescopic dampers.
19. **Steering** ZF recirculating ball type. Ratio 24.6:1 (Power assisted).
20. **Brakes** Hydraulically operated, dual circuit vacuum servo assisted service brakes on all four wheels, parking brake cable operated.
21. **Wheels and Tyres**
- Wheel type** Single piece steel 9.00 x 16 x 6.5 H with 6 x 18 mm studs.
- Tyres** 9.00 x 16 Michelin with XL tread pattern.
22. **Electrical system** 12 V screened with two batteries low maintenance. Alternator 65 amp rating.

PERFORMANCE

23.	Maximum speed on metalled roads	108 km/h (67.7 mile/h)
	Average safe speed cross country	22-32 km/h (13.7-19.9 mile/h)
	Approach Angle	
	Without front mounted winch	45 degrees
	With front mounted winch	40 degrees
	Departure Angle (Tow Position 1)	40 degrees
	Departure Angle (Tow Position 2)	32 ¹ / ₂ degrees
	Turning circle between kerbs	14.8 m (48.6 ft)

ENVIRONMENTAL DATA

24.	Temperature range	European climate
	Terrain	Prepared roads, tracks and cross country.

TRANSPORTATION DATA

25.	Airportability	Air portable including Helicopter slinging (unladen).
	Shipping tonnage	
	Cargo truck w/winch	29.2 m ³ (25 t)
	FFR Hard top w/winch	26.1 m ³ (23 t)
	FFR Soft top w/winch	29.2 m ³ (25 t)
	TCB FFR Carrier w/winch	29.9 m ³ (26 t)
	Bridge classification	MLC 5
	Fording depth	0.6 m (2 ft)
	Axle loading	
	Front axle	2500 kg (5512 lb)
	Rear axle	2800 kg (6173 lb)



