



# REEL-SMART

## INTELLIGENT WINCH SYSTEM

PART NO - 10551

**FITTING & OPERATING INSTRUCTIONS**  
(Suitable for right-hand drive countries only)

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## GENERAL

REEL-SMART is a fully integrated winching system designed to overcome the rope management problems and subsequent rope damage associated with conventional winches mounted to slide-bed and fixed bed recovery bodies. The system also ensures that the line pull is directly in line with the tow eye of the casualty ensuring greater safety and less likely hood of damage during recovery.

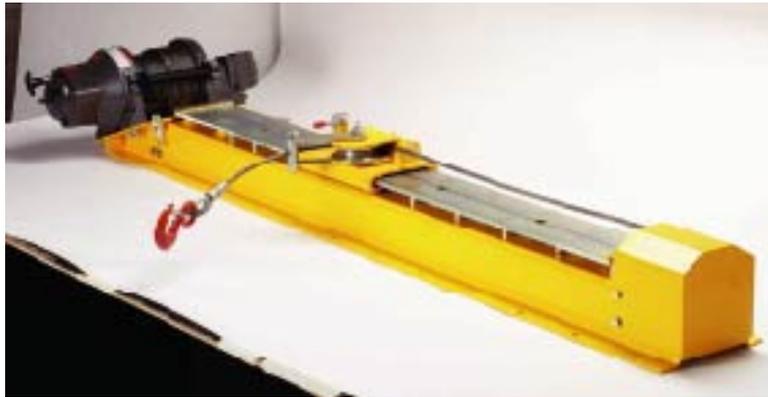


Fig.1

REEL-SMART comprises a winch main beam, mounted laterally across the front of the recovery body, to which is fitted a sliding winching head; a winch rope lead sheave is mounted at the offside end of the main beam and the winch is mounted at the near side end. The winch rope exits from the sliding head sheave.

The winch rope is reeved from the under side of the winch drum, through the winch main beam to the lead sheave, exiting from the top of this sheave to the sliding winch head where the rope may be aligned to the casualty laterally, or it may be lead off at any angle as required. Whichever lead off method is being used, the rope will still spool neatly onto the winch drum.

## FITTING INSTUCTIONS



Fig. 2

REEL-SMART is supplied as five separate components namely:

1. REEL-SMART main beam assembly including sliding winching head.
2. Winch (for power requirements & specifications see enclosed Winch Operating & Fitting Instructions)

### **PLEASE NOTE:**

**The Ramsey winch model that must be used with the REEL-SMART system has a 'B' rotation and at any time when parts are required this MUST BE SPECIFIED.**

3. Wire Rope (for specifications see enclosed Winch Operating & Fitting Instructions) (for use with fibre ropes e.g.. 'Dynaline' see 'Fitting Instructions').
4. Wire Rope Tension Plate.
5. 4 x ½" UNC x 30mm long plated studs with ½ nuts & spring washers (to be used for securing the rear feet of the winch to the main beam)

## ASSEMBLY INSTRUCTIONS

### ***1.Fitting the winch to the REEL-SMART beam assembly:***

Wind the 4 studs provided into the 4 fixing holes in the feet of the rear face of the winch. Ensure that this will position the winch motor on the forward side of the main beam and this will result in the winch free spool clutch control being on the body side of the main beam, and therefore making it easily accessible from the ground or the body deck. The winch can now be positioned on the sloping plate with the studs through the securing holes that will be closest to the side of the body.

The winch may now be secured using the ½ nuts & spring washers onto the 4 studs, and the 4 x 25mm long caphead screws through the 4 fixing holes in the front feet of the winch.



Fig.3

## **2. Fitting the rope pressure plate:**

**(NOT REQUIRED WHEN USING FIBRE ROPES E.G. 'DYNALINE').**

Remove the front tie plate from the front face of the winch and bolt the pressure plate assembly into position as shown in figure 3 using the same bolts as those removed from the tie plate.



Fig 4.

The sprung loaded rope tension system must be bolted on to the winch as shown in figure 4. This component is supplied with the springs on their location spigots and to ease fitment a bolt or cable tie is used to partially compress the springs.

**NOTE:** The bolts used in this application must NEVER be longer than 16mm. Any bolt longer than 16mm can cause serious damage to the winch castings and prevent operation of the free spool clutch mechanism.

The bolt or cable ties holding the spring partially compressed must now be removed after the wire rope has been wound onto the drum.

### 3. Fitting the wire rope:

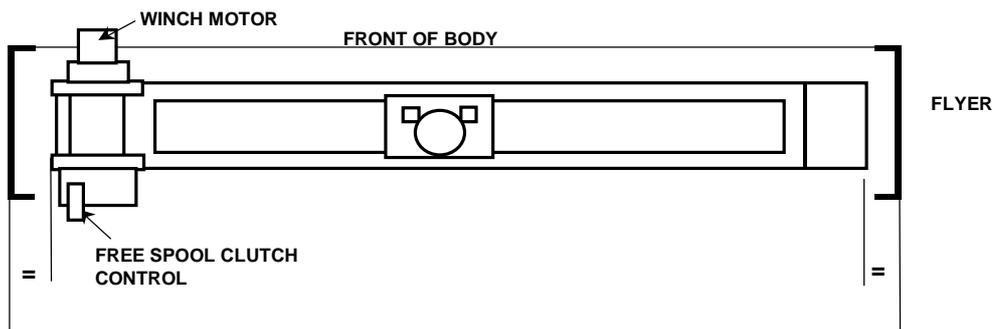
It is recommended that the wire rope is fitted after assembly of the REEL-SMART onto the vehicle to enable the winch to be powered and thus enabling the rope to be spooled onto the drum. (See page 6).

### ASSEMBLY OF REEL-SMART SYSTEM-WITH WINCH- ONTO THE BODY DECK.

Locate the winch and main beam onto the deck of the body, positioning it as far forward as possible. (this will generally locate it between the body flyer) with the winch on the near side of the body.

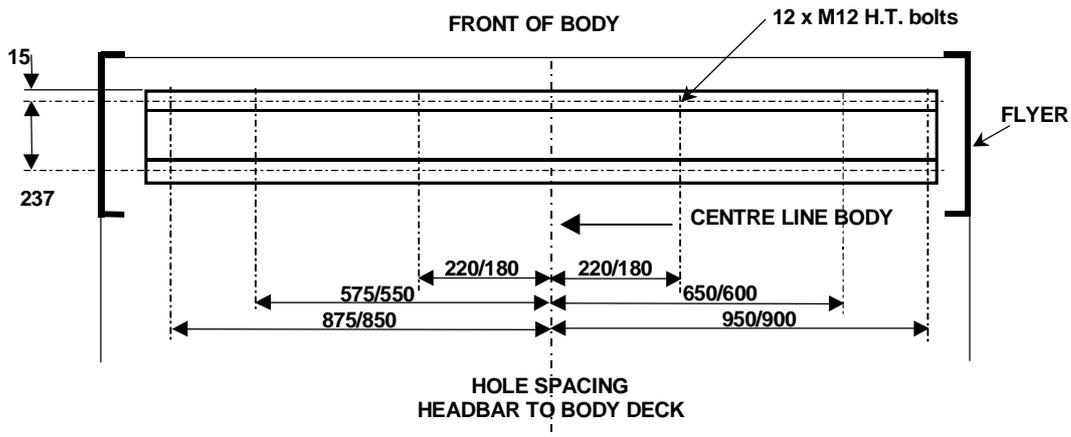
The REEL-SMART beam assembly should be positioned centrally about the body deck.

In the majority of installations it will be possible to allow the winch motor to protrude beyond the end of the body without fouling the rear of the cab, however this should be checked before bolting the REEL-SMART into position.



The bottom flanges of the REEL-SMART beam require to be bolted to the deck with a minimum of 6 x M12 bolts in both the front and the rear flanges. The spacing of these bolts is shown below.

**NOTE:** The bottom flanges **ARE NOT PRE-DRILLED**, allowing the installer the flexibility to determine their own spacing to suit their specific body design within the parameters shown. The other side of the body deck requires a suitable under frame to withstand the winching forces from the REEL-SMART system.

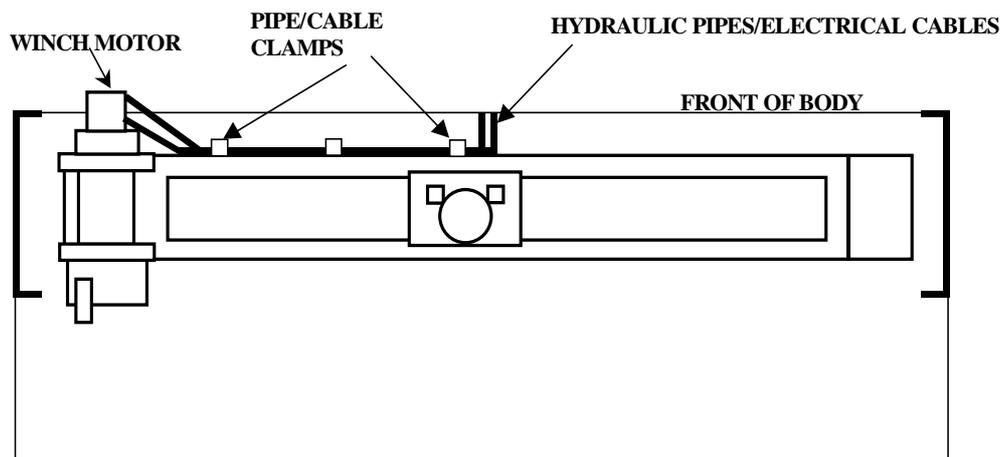


Connect the hydraulic supply hoses to the counter balance valve mounted on the winch motor, as described in the Winch Operating & Fitting Instructions.

**NOTE: The tapped holes in the counter balance valve are a 7/8" SAE thread and a male/male adapter can be supplied to 1/2" BSP if required. (This applies only to the Ramsey model RPH Taurus winch)**

## Hydraulic Supply

Hydraulic pipe support clamps may be fastened to the side of the REEL-SMART main beam to neatly secure the hoses. Fit winch control as described in Winch Operating & Fitting Instructions.



## Fitting the Wire Rope

Remove the sheave cover on the offside end of the main beam



Fig. 5

Wearing protective riggers gloves, uncoil the wire rope and position the plain end adjacent to the sliding winch head. Feed the end through the sliding winch head guide and around the sheave wheel.

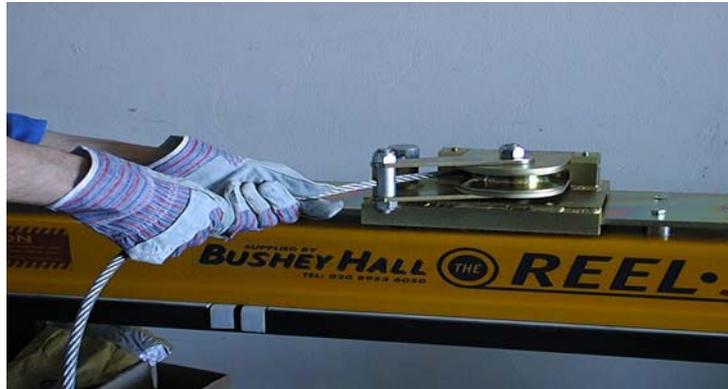


Fig. 6

Exit the wire rope towards the offside of the vehicle. Lead the rope end over the top of the sheave on the offside and around it 180° and through the main beam towards the winch.

To facilitate the installation of the wire rope remove the centre rope retention spacer and loop the wire rope, ensuring that it passes between the sheave and the two remaining spacers.



Fig. 7

The centre spacer can then be replaced.



Fig. 8

Push the rope inside the REEL-SMART beam until it emerges at the other end and ensure that the rope passes under the winch drum. Fit the wire rope to the drum in accordance with the Winch Operating & Fitting Instructions.

The bolt or cable tie holding the wire rope tensioner away from the drum can now be removed. This will automatically provide positive tension on the winch rope. Operate the winch 'IN' control (check to ensure the rotation of the winch is correct) and observe neat spooling of the rope onto the drum.

## Fitting the Fibre Rope (e.g. 'Dynaline')

Remove the steel 'Bobbin' from the sliding winch head guide and replace with nylon bobbin. Fasten with setscrews supplied.

Remove the sheave cover on the offside end of the main beam



Fig. 5

Uncoil the rope and position the plain end adjacent to the sliding winch head. Feed the end through the sliding winch head guide and around the sheave wheel.



Fig. 6

Exit the rope towards the offside of the vehicle. Lead the rope end over the top of the sheave on the offside and around it 180° and through the main beam towards the winch.

To facilitate the installation of the rope remove the centre rope retention spacer and loop the rope, ensuring that it passes between the sheave and the two remaining spacers.



Fig. 7

The centre spacer can then be replaced.



Fig. 8

Push the rope inside the REEL-SMART beam until it emerges at the other end and ensure that the rope passes under the winch drum. It may be necessary to pass a stiff wire through first and then fasten the rope to it and draw the rope through. Fit the rope to the drum in accordance with the Winch Operating & Fitting Instructions.

Operate the winch 'IN' control (check to ensure the rotation of the winch is correct) and observe neat spooling of the rope onto the drum.

**NOTE: WHEN FITTING A FIBRE ROPE ONTO A REEL SMART THAT HAS PREVIOUSLY BEEN USED WITH A WIRE ROPE, ENSURE THAT ANY WEAR CAUSED BY THE WIRE ROPE TO DRUM OR SHEAVE WHEELS IS DRESSED SO THAT THE SURFACE IS SMOOTH.**

## Installation Test

Refer to BHW Group Ltd. "Winch Test Procedures – Following Installation"

## OPERATING INSTRUCTIONS

At all times obey the safe winching procedures and observe safe winching precautions. Competent trained personnel should only operate winches.

For winch controls consult Winch Operating and Recovery Vehicle Manufacturers Instructions

When connecting the wire rope to an offset anchorage point on a casualty the sliding winch head may be positioned to provide a straight pull.

Before attempting to position the sliding winch head **ensure there is no tension in the winch rope**. To position the sliding winch head, rotate locking pin adjacent to sheave to release pin. Slide winch head to desired position, rotate locking pin and ensure it is engaged in the hole in the slide plate. **DO NOT OPERATE THE WINCH UNLESS THIS PIN IS FULLY ENGAGED**

**NOTE:** During the winching operation the winch may be stopped, the casualty stabilised and the angle of pull quickly changed by adjusting the position of the sliding winch head.

The winch rope may be directed from the sliding winch head to body side bollards without detriment to the wire rope spool in onto the winch drum.

The REEL-SMART system allows the operator to carry out long sideways pulls without having to relay the wire rope due to bunching.

### CAUTION

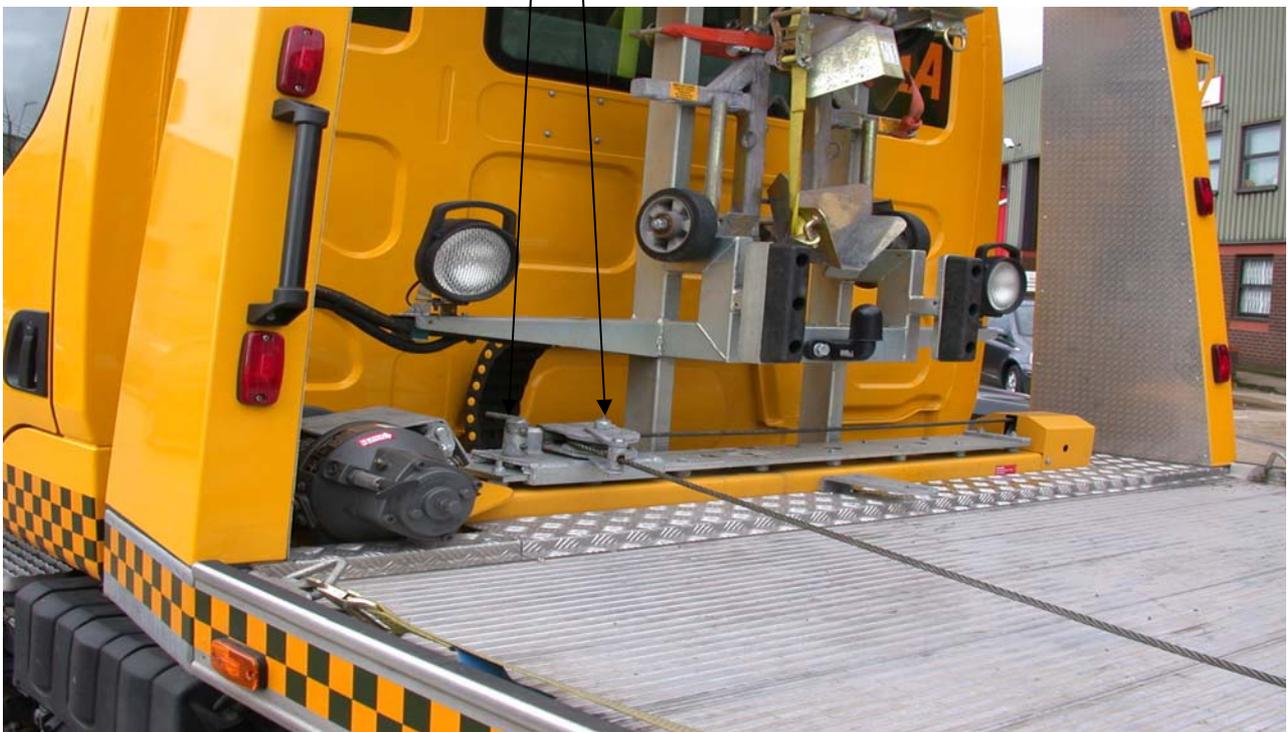
- A. All REEL SMART users must be instructed to ensure that the winch rope hook assembly does not contact the sliding winch head. This can result in damage.
- B. In common with all winch operations when winching OUT without load attached to the winch rope, positive tension must be constantly applied to the winch rope. Should positive tension not be applied the rope will become loose on the winch drum and loose coils will contact the REEL-SMART beam assembly and become damaged. Subsequent loads applied to loose rope will also create rope damage. Additionally, when winching IN without a load attached to the winch rope, apply positive tension to the rope to ensure dense wrapping of the rope onto the winch drum.

## MAINTENANCE

Apply General purpose grease to all grease nipples see picture's below.



Grease Here



Ensure central rotator can freely rotate and slider mechanism slides freely up and down the plate.

For winch maintenance refer to winch manual.

For wire rope care refer to winch manual.