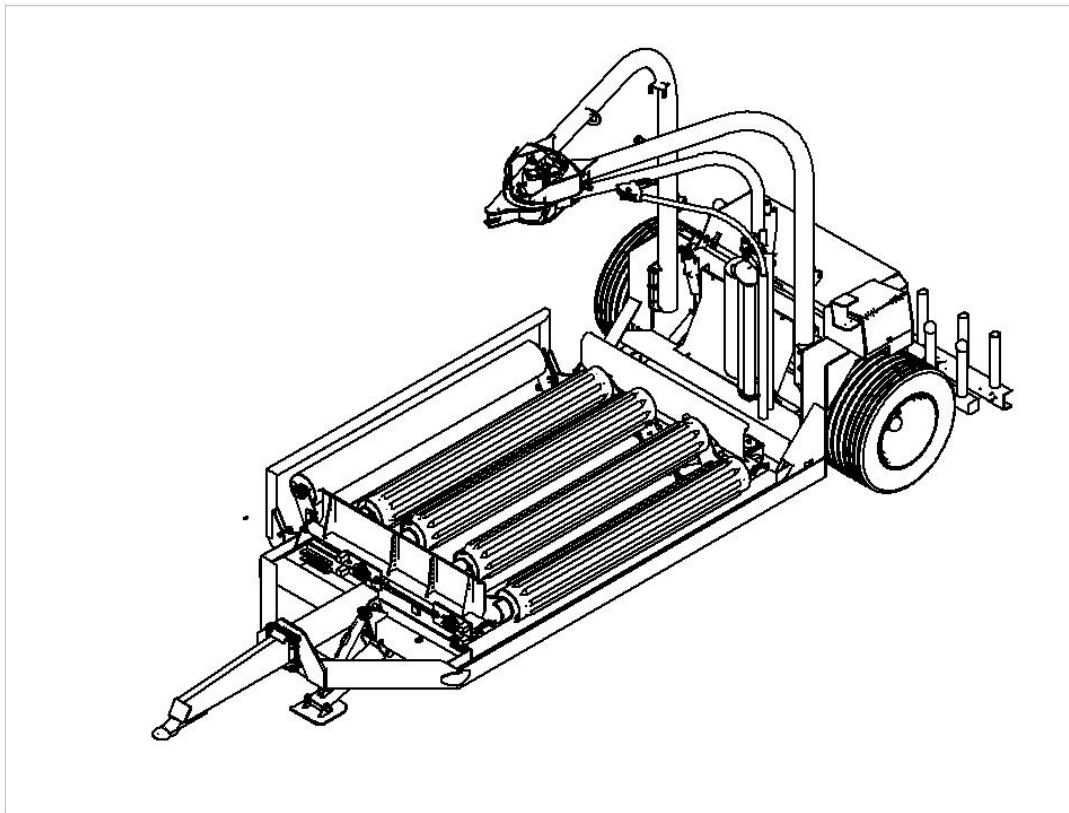




1804 ARC/S  
OPERATORS HANDBOOK  
1801-M0107



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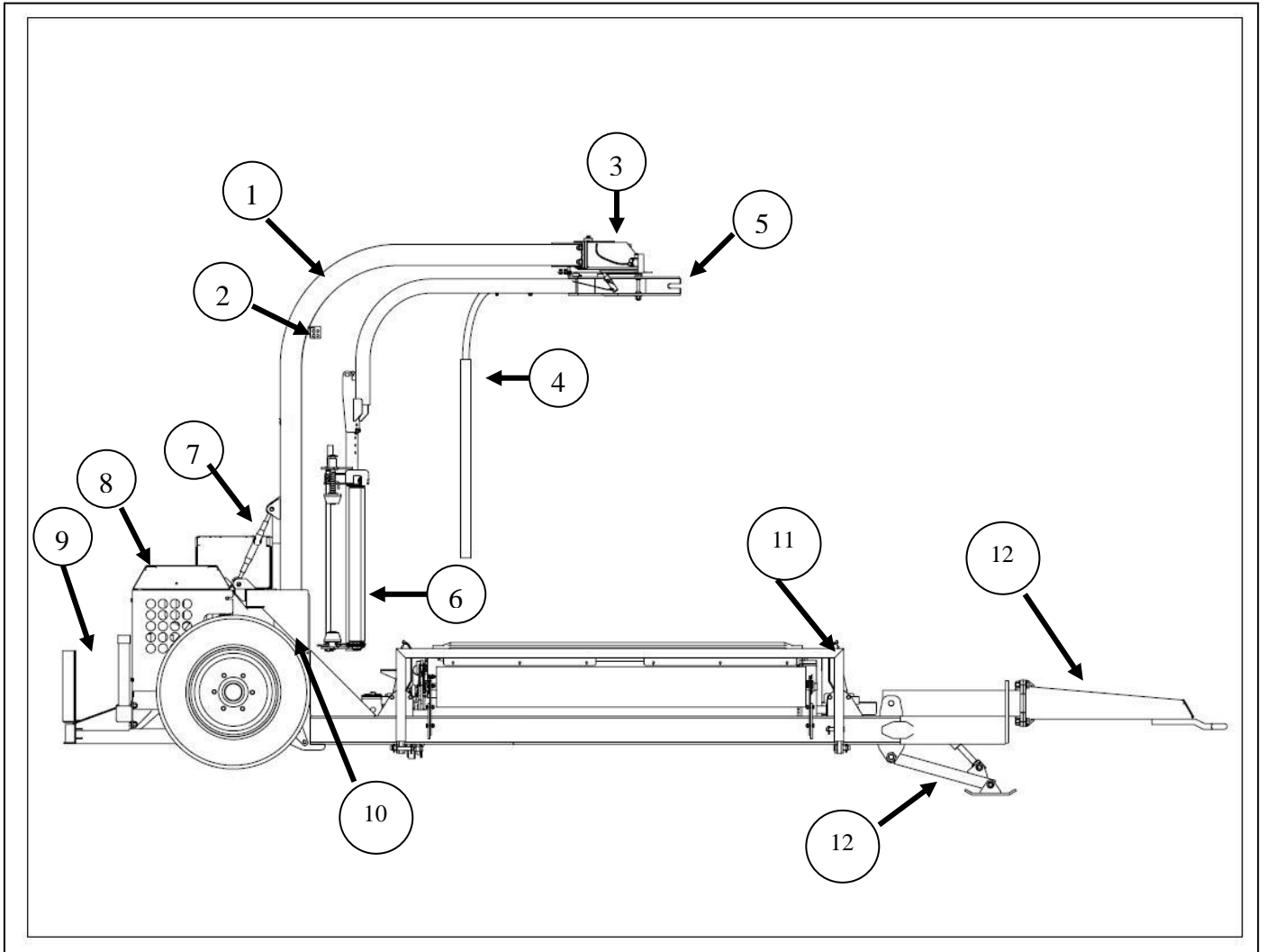


## USER'S MANUAL

### AUTOWRAP 1804 S & ARC

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## AUTO WRAP 1804 S Bale wrapping machine



- |    |                 |     |                                |
|----|-----------------|-----|--------------------------------|
| 1. | Tower           | 8.  | Engine housing                 |
| 2. | Transport Latch | 9.  | Film Storage                   |
| 3. | Tower motor     | 10. | Park / Operation Brake         |
| 4. | Safety Arm      | 11. | Off Loading Mat                |
| 5. | Wrapping Arm    | 12. | Levelling Jack                 |
| 6. | Film Dispenser  | 13. | Removable & Adjustable Drawbar |
| 7. | Tower Support   |     |                                |



## 1.0 INTRODUCTION.

TANCO AUTOWRAP LTD. congratulates you with the choice of bale wrapping machine. We are certain you will be satisfied with the machine, and that you will have the pleasure of your investment for many years.

The 1804 S is hydraulically driven by its own engine. The remote control unit is easy to use and the functions are clearly marked.

The 1804 S is equipped with a patented, special mounting for the rollers, which enables the machine to wrap round & square bales.

The 1804 S can wrap both square and rectangular bales, from 60 x 60 to 120 x 120 x 190 cm.

It can take bales of up to 1500 kg. It can also wrap round bales of up to  $\varnothing$ 1500 mm.

This machine has been in operation since 1999; customer demand has enabled us to develop this well adapted machine for the market.

This manual is meant to explain how the 1804 S is prepared, mounted, operated and how it works, and along with the spare part's list be a reference for maintenance and troubleshooting. So take good care of this book, it is a part of the machine.

Read carefully through this manual, and specially chapter 2.0, safety instructions, before starting the machine, and follow the instructions thoroughly. If problems should occur, ask your dealer for advice before you make the problem worse than it is. See also chapter 13.0, conditions of warranty.

TANCO AUTOWRAP LTD. reserves the right to alter the product and/or its technical specifications without prior notice and without this entitling any alterations to previously supplied products.

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Reservation is made for possible printing errors.



<b>AUTO WRAP</b>	<b>1804 S</b>	<b>1804 S TWIN</b>
Height in working position	2960 mm	2960 mm
Width, min. / max.	2440 / 3215 mm	2440 / 3215 mm
Length, min. / max.	2540 / 3425 mm	2540 / 3425 mm
Weight	2460 kg	2560 kg
Wrapping arm speed, recom.	22 rev. per minute	22 rev. per minute
Wrapping arm speed, max.	27 rev. per minute	27 rev. per minute
Wheel size / max. air pressure	10,0/80-12BL 4,2bar	10,0/80-12BL 4,2bar
Bale size, max.	120x120x190	120x120x190
Bale weight, max.	1500 kg	1500 kg
Capacity	Approx. 40 bales per hour	Approx. 40 bales per hour
Pre-stretcher	750 mm	750 mm
Oil pressure / amount, min.	150 bar / 25 litres/minute	150 bar / 25 litres/minute
Electric connection	12 V DC	12 V DC



## 2.0 SAFETY PRECAUTIONS.

**TANCO AUTOWRAP LTD. does not take the responsibility for damages that may occur on machine, persons or other equipment, because of the machine NOT being used as described in this manual, or because of the safety precautions NOT being followed.**

### 2.1 SAFETY EQUIPMENT.

Before using the machine, make sure that all guards and covers are securely fitted. The machine must not be operated if a function does not work as described later in this manual. (See chapter 2.4).



**The Auto Wrap 1804 S are equipped with an "EMERGENCY STOP" on the wrapping arm. This device stops all functions instantly, but is by definition not an emergency stop, because it does not interrupt the feed. Nevertheless it has an equivalent function, so we have decided to call it an EMERGENCY STOP in this book.**

### 2.2 BECOME FAMILIAR WITH THE OPERATIONS OF THE MACHINE.

If you are unsure how to operate the machine properly, either use of or maintenance to your Auto Wrap, please contact your Auto Wrap dealer.

### 2.3 IMPORTANT!

**MAKE ALWAYS SURE THAT NOBODY IS IN THE HAZARD  
AREA OF THE WRAPPING ARM WHEN THE MACHINE IS IN USE.**

**THE MACHINE MUST NEVER BE OPERATED BY PERSONS WHOM DOES NOT  
KNOW ENOUGH ABOUT HOW TO SAFELY OPERATE THE MACHINE, OR BY  
PERSONS UNDER 16 YEARS OF AGE.**

## 2.5 DANGEROUS AREAS.

TANCO AUTOWRAP LTD. has given the safety to the operator the highest priority, but it is still impossible to secure oneself of every danger area on the machine. Therefore we will now go through some of the dangers that can occur when using the Auto Wrap bale wrapper.

### 1. IMPACT OF THE WRAPPING ARM.



During the wrapping process the arm rotates with a speed of 20-27 revolutions per minute around the bale. On the arm there is mounted a film Dispenser unit with a plastic roll. The Dispensers can give a person serious injuries if one comes to close to the working area of the wrapping arm. To reduce this danger we have mounted an emergency stop\* device on the wrapping arm, this stops output for the wrap arm and should stop the wrap arm within two feet of movement when something comes in the way of it. **It is very important that this protection always works and that it should not under any circumstances be disconnected.**

(See more about the emergency stop\* in chapter 5.0).

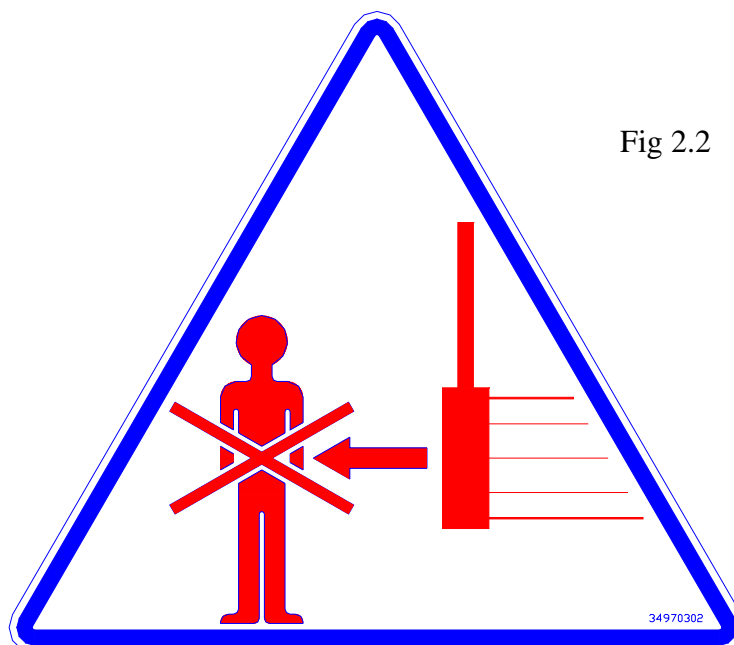
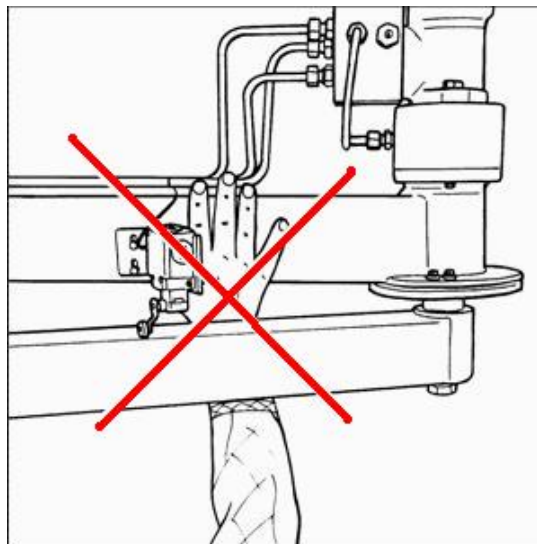


Fig 2.2

**2. CRUSH HAZARD BETWEEN THE TOWER/CHASSIS AND THE WRAPPING ARM.**



As earlier explained, we have a wrapping arm with a Dispenser and a plastic roll. The wrapping arm passes the main frame during each rotation. Here there is a risk of crushing if a person stands too close to the main frame when the wrapping arm passes. The distance between the main frame and the wrapping arm is not large enough to give room for a person. The clearance between the Dispenser and the Chassis there is also a crush hazard.



**3. CRUSH HAZARD BETWEEN THE TOWER AND THE WRAPPING ARM.**



During the main wrapping process the wrapping arm rotates around the bale. Every time the wrapping arm passes the tower/chassis, there is a crush hazard that can be dangerous for the fingers/ arms or bodies. The distance between the stationary and

the wrapping arm is between 25-40 mm. (See fig. 2-2).







Fig 2.3



4. **CRUSH HAZARD BETWEEN THE ROLLERS AND THE MAIN FRAME.**  
When adjusting the width of the rollers there is a danger of being trapped and squashed. **Keep away from this area**, fingers and feet also. (See fig. 2-3).

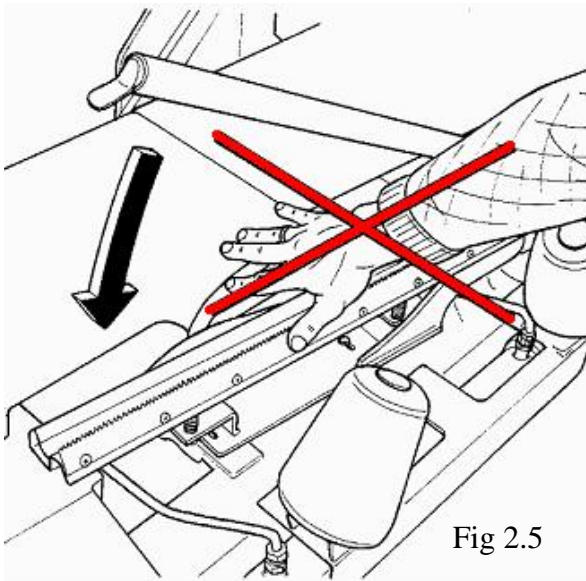


Fig 2.5



5. **CRUSH HAZARD CAUSED BY CUT AND START SYSTEM.**  
At the end of the wrapping process the plastic is held tight & cut from the bale. It's held ready for the start of the next wrapping process. When the cutter arm moves down to hold the plastic, there can occur a trap danger between the cutter arm and the cutter holder. The cutter blade that perforates the plastic is very sharp, so keep hands away from the cutter. (See fig. 2-5).

**6. CRUSH HAZARD BETWEEN THE ROLLERS.**



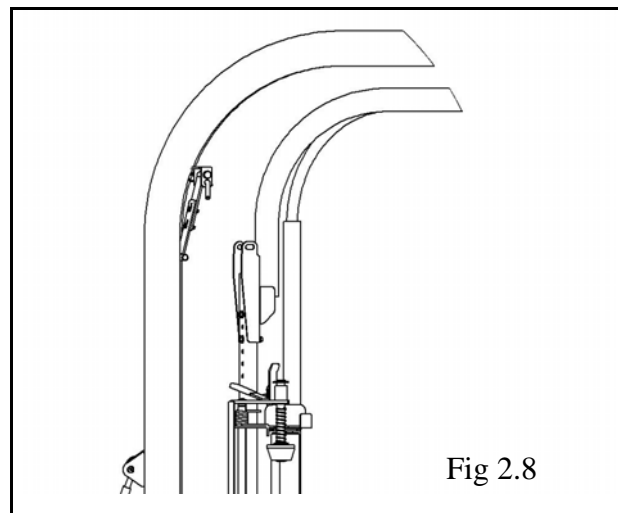
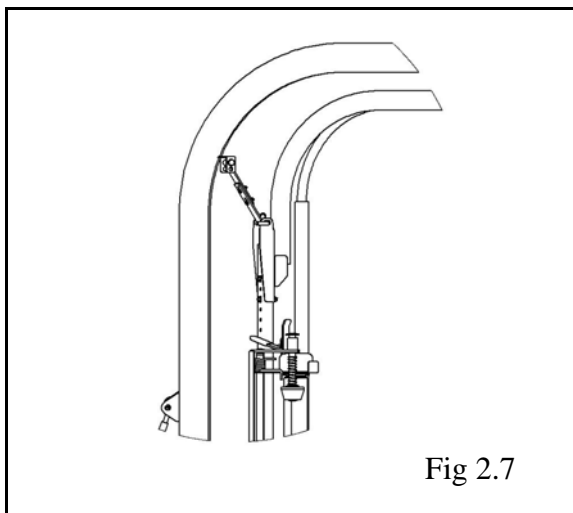
When the rollers on the machine are moved together, there is not enough space for a person between the rollers. Here there is a danger of being squeezed, so make sure that nobody is between the rollers when they are moved together. (See fig. 2-6).

Note that the rocking rollers can rotate and even if they are in the level position they can drop suddenly. There is a serious risk of crushing associated with this. Never stand on the rollers or stand between or lie under them. If you need to work in this area always ensure that everything is in a safe position. i.e rollers are dropped and fully opened and power supply is disconnected

## 2.5 LOCKING THE WRAPPING ARM.



When the machine is not in use, make sure the locking plate for the wrapping arm is connected. If the plate is not connected, the wrapping arm and/or the machine could be damaged during transport. (See fig. 2-7).



Connecting heavy working implements often has an overall negative effect on the tractor's driving and braking capacity.

## 2.6 TRANSPORTING.

When transported on a public road there are certain safety measures that must be taken:

1. Move the wrapping arm into the transport position using the controller. (See Chapter 6)
2. Secure the wrapping arm. (See section 2.5 and fig. 2-7.)
3. Ensure machines lights are connected and working correctly.

### 3.0 SETTING UP / MOUNTING OF THE MACHINE.

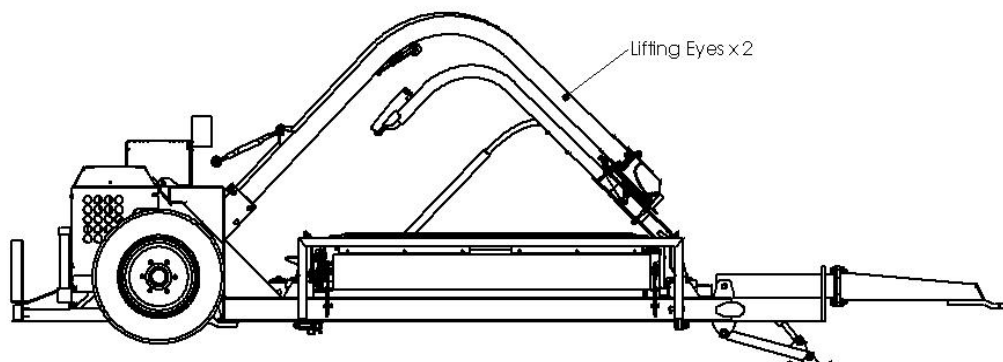


**Be careful! There is a danger of being crushed when working implements are mounted and connected. Carry out the mounting procedures slowly and carefully, and use separate and approved lifting equipment to make the work easier. See section 2 on safety regulations and pay attention to the various safety decals displayed on different parts of the bale wrapper.**

#### 3.1 HINGED TOWER.

Because of the freighting of the machine, AUTO WRAP 1804 S is sometimes delivered with the tower hinged down. Raise tower by lifting using the lifting eyes. Fit 10 M16 x 50 bolts but do not tighten. Fit the dispenser to the wrap arm. Measure the height from the bottom of the dispenser to the chassis. Rotate the arm around  $\frac{1}{2}$  a turn and measure again. Raise or lower the tower until the wrap arm is parallel to the chassis. Tighten up the top links on the back of the tower. Lower the lifting mechanism and check again. If necessary lift again and tighten top links.

**Tighten all bolts and lock top links and after several hours' use, tighten all the screws once again.**



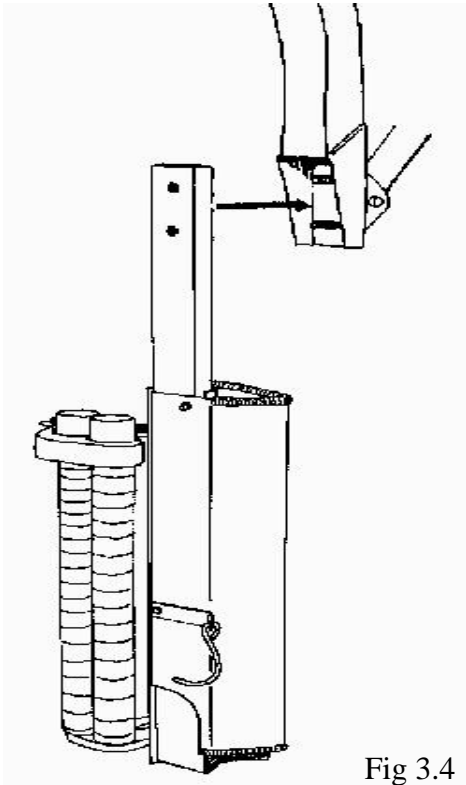


Fig 3.4

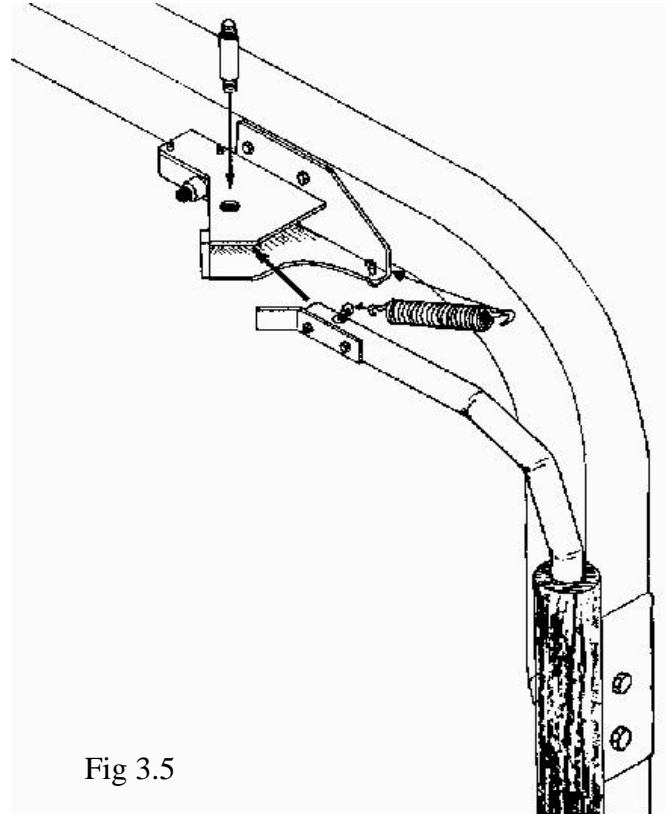


Fig 3.5

### 3.2 MOUNTING OF PRESTRETCHER.

It is to be fastened with the same 2 bolts that the locking bracket is fastened with. (You don't have to remove the locking bracket).(See Fig 3.4) Remove the nuts and mount the prestretcher and the wrapping arm.

### 3.3 MOUNTING OF EMERGENCY STOP\* ARM.

The machine is equipped with emergency stop-arms on each of the pre-stretchers.

The releasing arm for the emergency stop component must be mounted.

Put the arm into the bracket and mount the hinge bolt. Replace the washers and tighten the locking nuts. (See fig. 3-5).

The return spring is to be fastened between the eye bolt on the arm and the eye bolt on the bracket.



#### 4.0 Electrical supply

The electric supply for the machine's control unit and electro-hydraulic components must come **directly from the tractors' 12 volt battery.**

The electric wires from the battery must have an area measurement of min. 2,5 mm<sup>2</sup>.

Connection of other contacts on the tractor can cause risk of malfunction, and is not recommended.

For 1804 S machines this is already connected to the Engines battery.

Never tamper or remove fuses fitted. Replace fuses with ones of the same rating.

**BROWN LEADER GOES TO BATTERY PLUS POLE**

**BLUE LEADER GOES TO BATTERY MINUS POLE**

## 5.0 EMERGENCY STOP.

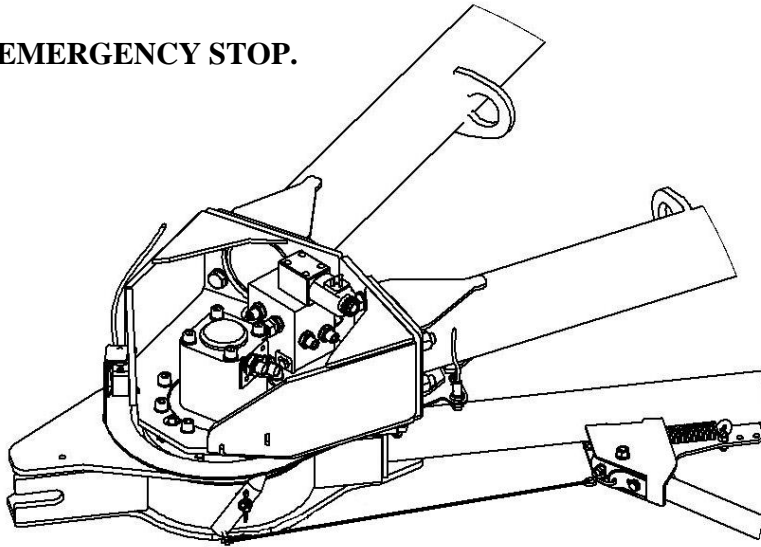


Fig 5.2

- 5.1 The machine is equipped with a safety guard on the wrapping arm, and its operation must be tested before work itself is started.
- 5.2 The safety guard is designed to stop the wrapping arm injuring operators or objects, when starting up or during the wrapping process.
- 5.3 The emergency stop\* is constructed with a "positive" connection, i.e. it has to be in full order before the machine can be started.
- 5.4 This consists of a release guard which is connected by a wire to the lever arm, and this activates a small electrical switch via a sliding contact (14, fig. 5-2). If the electrical circuit is broken, the hydraulic oil flow is cut off and all functions stop immediately. This is indicated on the control box display by 'EMERGENCY STOP'
- 5.5 Before use, this function must be tested. Start the wrapping arm, hold out an arm or any obstacle, the wrapping arm must stop within 700mm.
- 5.6 To restart the machine the obstacle must be removed and the safety guard must return to its original position. If "STOP" is pressed before "RESTART", the wrapping continues from the point in the program at which the emergency stop was activated. (See more in section 7.)

- 5.5.1 **IMPORTANT: GIVEN THE VELOCITY AND MOMENTUM OF THE ARM IT IS IMPOSSIBLE TO STOP THE WRAP ARM IMMEDIATELY. THE EMERGENCY STOP ARM IS PROVIDED TO HELP REDUCE THE RISK OF SERIOUS INJURY AND GREAT CARE MUST BE TAKEN WHEN OPERATING THIS MACHINE.**



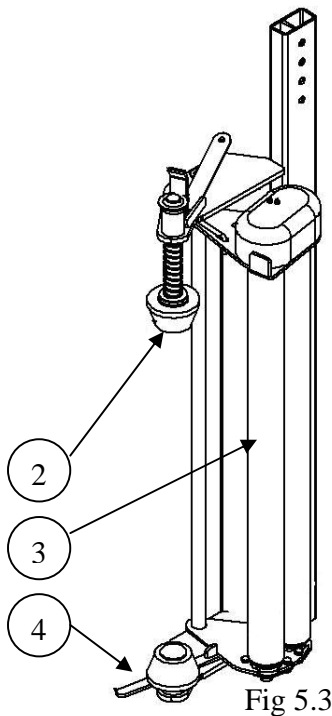


Fig 5.3

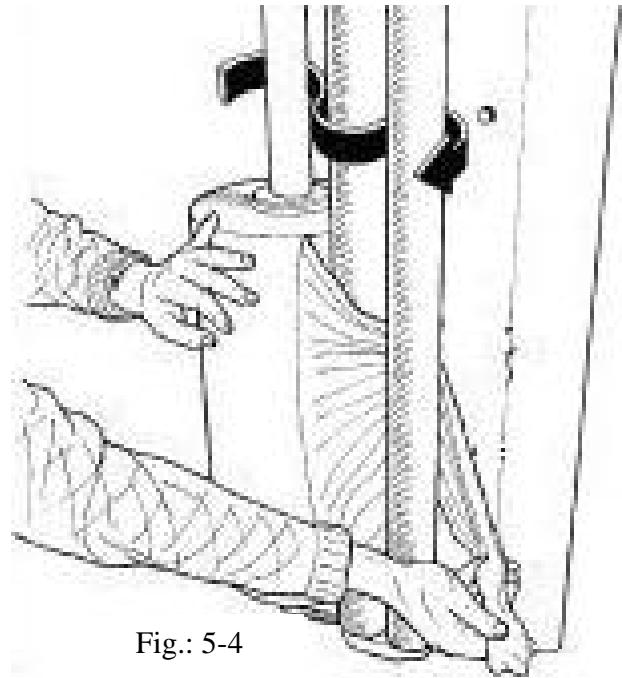


Fig.: 5-4

#### 6.0 MOUNTING OF PLASTIC FILM.

When loading a plastic roll, first ensure the top cone (2) (See Fig 5.3) is pushed up to latched position, then push back the Stretch rollers (3) until held in position by locking catch (4).

- Place the Roll on the Bottom Cone and release the top latch (1). Beware of Fingers!
- Pull the film between the rollers on the pre-stretcher in the direction of the arrow. (See fig. 5-4). (See also the sticker on the dispenser)
- Release the locking catch and allow the rollers to lie against the roll of film. Pull the film from the roll and tie it to the bale.

6.1 The standard film dispenser is designed for 750mm film. If using 500 mm film an adaptor is required which must be ordered separately. See parts book and contact your dealer.

#### 6.2 Height adjustment of pre-stretcher / plastic film.

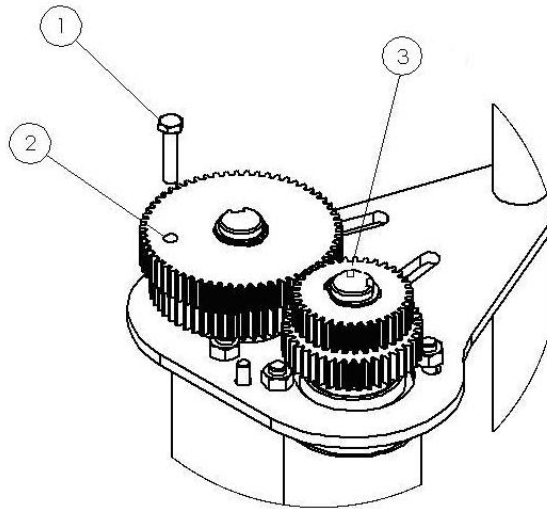
The plastic film should hit at the middle of the bale wrapped, and therefore it may be necessary to adjust the height of the pre-stretcher.



### 6.3 Tanco Dual Stretch Dispenser

Some Tanco Autowrap machines can optionally be fitted with a patented dual stretch gear system.

This system enables a quick change of stretch levels on the Film Dispenser.



If the bolt (1) is fitted in position 2, the top set of gears provide the stretch (70%).  
By removing the bolt from position 2 and fitting it in position 3, the bottom set of gears become the stretch gears giving 55% (for use in hotter climates or with square bales).  
or optionally 33%

### Tanco Dispenser Gear Combinations

Inner Gear	Outer Gear	% Stretch
60 Tooth	35 Tooth	70%
58 Tooth	37 Tooth	55%
54 Tooth	41 Tooth	32%



## 7.0 EH Controller Manual

### Contents

#### 1. INTRODUCTION

- 1.1 IMPORTANT SAFETY INFORMATION!
- 1.2 Main operating Functions and Display

#### 2. OPERATION

- 2.1 Operation in Automatic mode
- 2.2 Operation in Manual mode
- 2.3 Manual options in Automatic mode
- 2.4 Operations in Manual mode
- 2.5 The Display Menu
- 2.6 Selecting a Store Total
- 2.7 Resetting a Store Total to Zero
- 2.8 Setting the Number of Wraps
- 2.9 Film Break Alarm (Optional)

#### 3 OPERATOR SETUP MENU



## 1. Introduction

The Tanco Autowrap Bale Wrap Controller enables the operator to monitor and control the operation of the bale wrapper at any stage of the wrapping cycle. The controller is designed for models : 1300EH, 1510EH, 1510T, 1514S, and 1514T rotating-arm type wrappers.

There are 2 operating modes – Automatic and Manual. The automatic mode permits ‘one-touch wrapping’ to ease the workload on the operator. The controller is fully programmable to optimise wrapping performance. Bale counts are automatically logged in any one of 10 selectable memory stores, in addition to a grand total memory store.

### 1.1 IMPORTANT SAFETY INFORMATION!

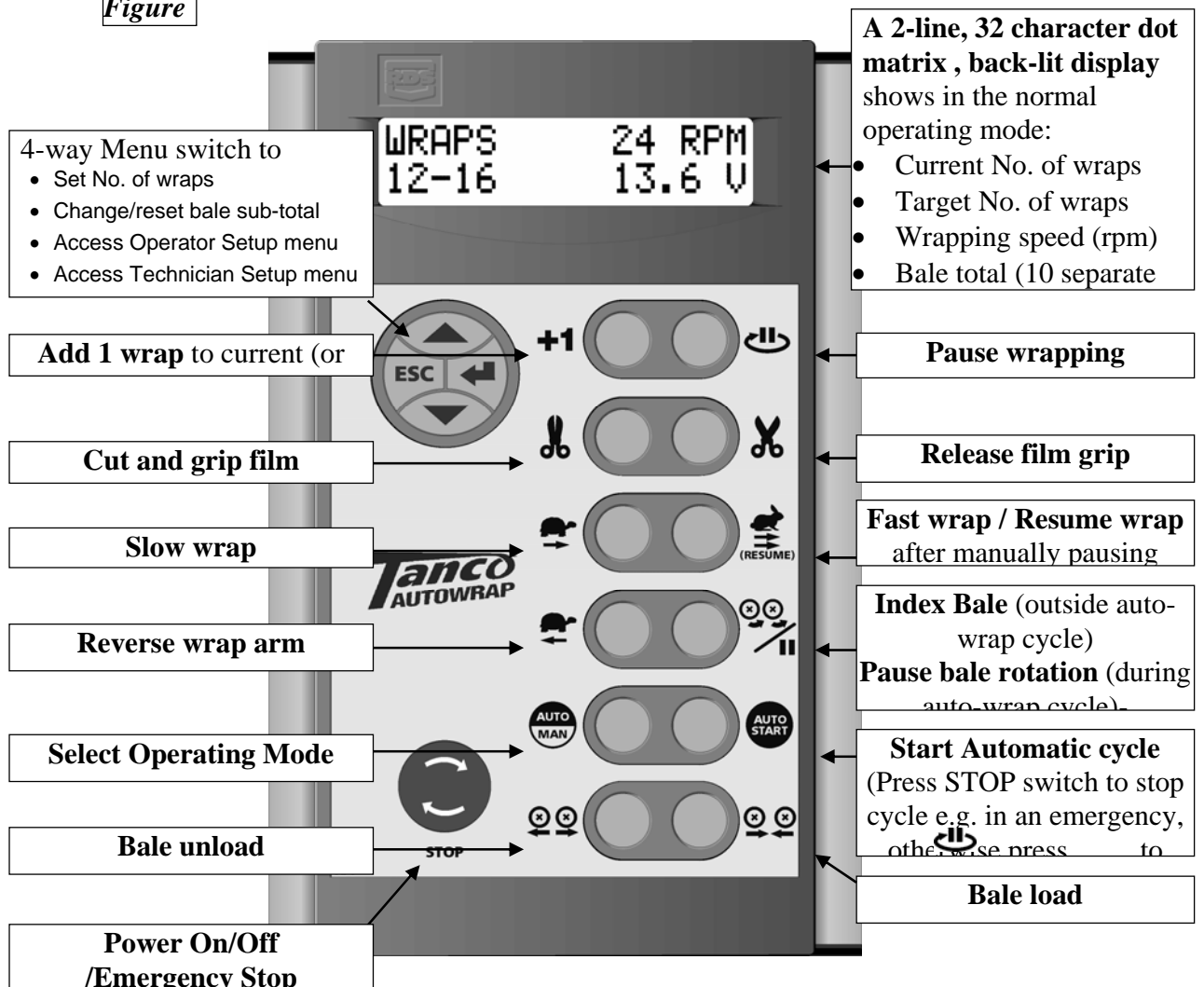


- Please read and understand the instructions for using this controller before operating the machine.
- This controller is fitted with a pushbutton type On/Off Emergency Stop switch. Always ensure the controller is switched OFF via this switch before attempting any adjustment or maintenance to the machine.
- Please follow ALL other safety instructions given in the manufacturers’ Operator Handbook for this machine.

### 1.2 Main operating Functions and Display

The principal instrument features and operating functions are shown in figure 1 below.




**Figure**



## 2 Operation


### 2.1 Operation in Automatic mode

The controller is generally used in automatic mode for 'one touch wrapping'.


1. 'A' on the display indicates that the controller is set in Automatic mode. If not, press  to select.
2. Place a bale on top of the machine.
3. Press the  switch to commence the automatic wrapping cycle. The cycle is completed when the target number of wraps has been reached.
4. Press the  switch again to unload the bale.

\* The controller must be configured in the Operator Setup menu (section 3) so that this is a 'one touch' function in automatic mode. Otherwise you must hold the switch for the required duration (as remains the case in manual mode).


### 2.2 Manually interrupting an automatic wrapping cycle

Press the  switch to bring the wrapper to a controlled stop. Pressing the



 switch will continue the auto-wrap cycle from where it stopped.

For safety reasons, if it is necessary to work on the machine (e.g. in the event of a film break or the film running out), then it is strongly recommended that you then switch the controller off via the red stop button and disengage the machine power


source. Pressing the  switch after switching the controller back on will resume the auto-wrap cycle from where it stopped.

**Unless it is an emergency situation, do not bring the machine to a stop by pressing the red stop button as this will impose unnecessary strain on the machine.**

### 2.3 Manual options in Automatic mode

With the controller in automatic mode, the following manual functions are possible.



**SLOW WRAP** (not during the wrapping sequence). Press  to resume the normal fast wrap.




**REVERSE WRAP ARM** (only enabled outside of the wrapping sequence). Press this button to nudge the wrap arm backwards to the desired position.



**PAUSE BALE ROTATION (function active during auto-wrap cycle)**. Hold this button to add more film to a particular part of the bale. Release the button when sufficient additional film has been applied.




 **BALE INDEXING (function active outside auto-wrap cycle).** Press and hold this button to index the bale. Release the button when the bale is at the desired position.

**NOTE:** The controller can be configured from the 'Operator Setup' menu (section 3) so that this is a 'one-touch' function and the bale will then index for the preset period (e.g. to allow a ¼ turn).

**+1 ADD 1 WRAP** Each time you press this button an additional wrap will be put on the current bale if the wrapping sequence is in progress, or onto the next bale if the automatic cycle has not yet been started. You can add as many wraps as required.

## 2.4 Operation in Manual mode

'M' on the display indicates that the controller is set in manual mode. If not, press  to select. In manual mode you have total control of every stage of the wrapping cycle.

The software logic determines which manual functions can be activated at any point in the wrapping cycle. Should the operator incorrectly select a function at a certain stage during the wrapping cycle, then that operation will not be performed.



## 2.5 The Display Menu

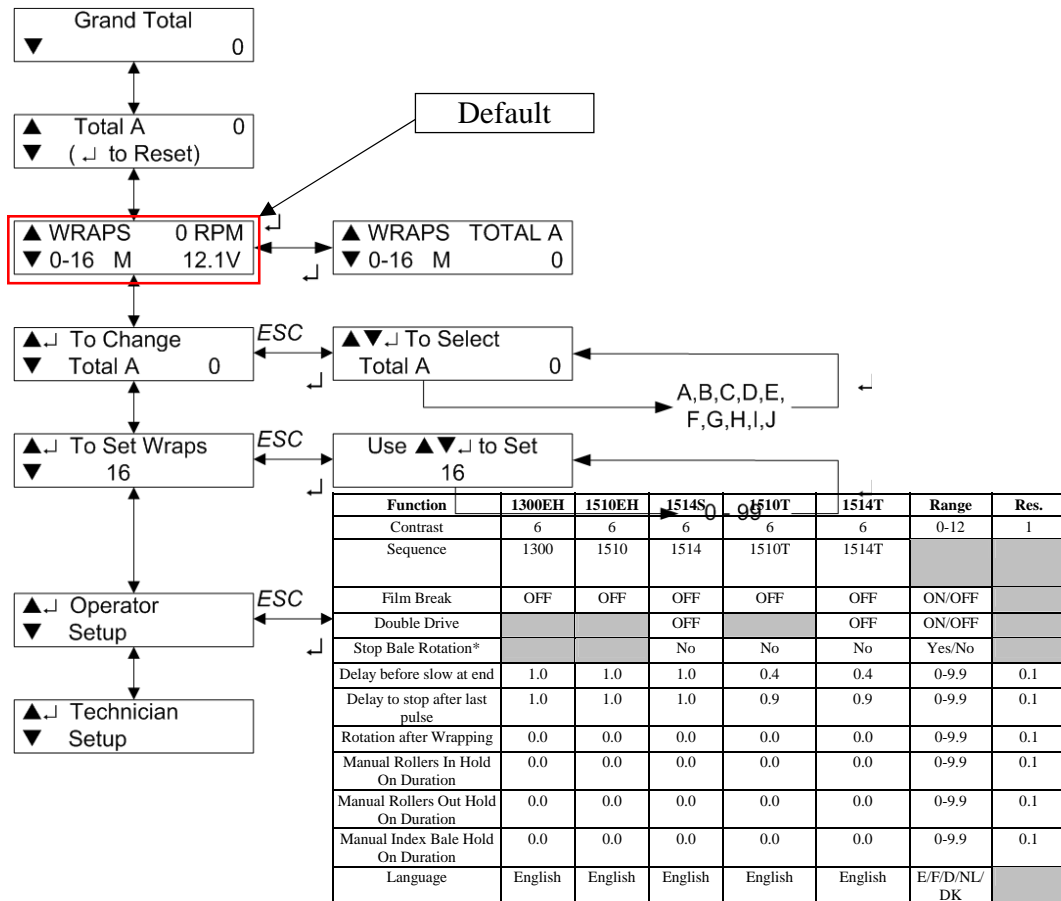
The Display menu is divided into 3 sections. At the top level are the settings used during the daily work with the machine – i.e. Store totals and No. of Wraps.

The Operator Setup' section enables the operator to perform adjustments to the machine operation – e.g. time duration and time delay settings during the automatic cycle.

The 'Technician Setup' menu is not normally accessible to the operator without a PIN access code. 'Technician Setup' is not covered by this manual.

Use the 4-way switch to navigate the menu. Each menu screen indicates which keys to press to make the settings. The instrument will default back to the main operating display after 30 seconds if no other key is pressed

Here is a summary of the display menu;





**NOTE:** There are additional sequences selectable in the Operator Setup menu but not shown in the table. These sequences are for wrapper models to which this manual does not apply.

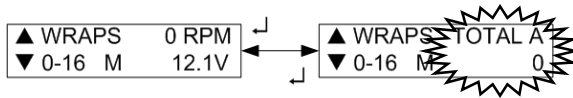
Please refer to section 3 for further explanation of the Operator Setup functions given in the table above



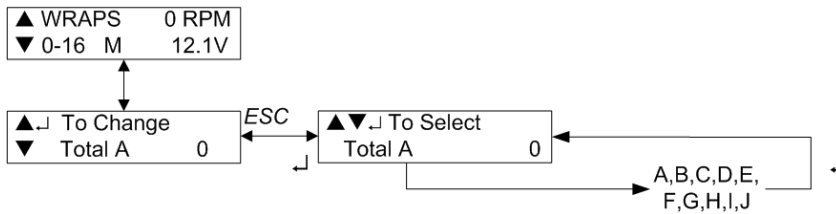
## 2.6 Selecting a Store Total

There are 10 individual memory registers labelled 'Store A' to 'Store J' for bale totals. Each time a bale cycle is completed, the currently selected store total and the grand total increments by 1.

The currently selected store is displayed on one of the two screens selectable in the normal operating mode.



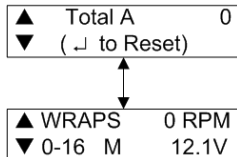
The default setting is Store A. To select a particular store, navigate the display menu using the 4-way switch.



Press the up/down arrow keys to select the store, then press the ENTER key to confirm the selection.

## 2.7 Resetting a Store Total to Zero

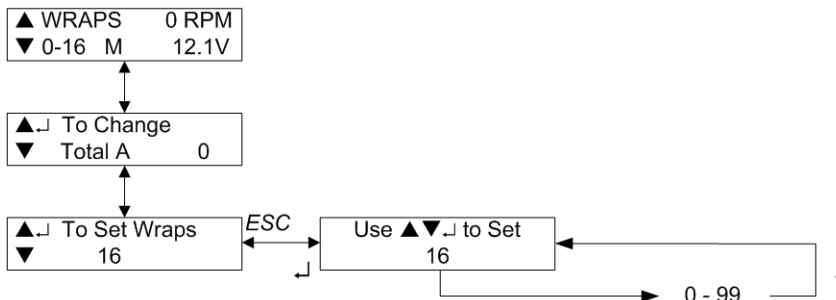
Stores A to J can be individually reset to zero at any time. The Grand Total store cannot be reset. First select the store to be zeroed, then navigate the display menu as shown below.



Press the ENTER key to reset.

## 2.8 Setting the Number of Wraps

The default number of wraps is 16. You can set the target number from 0 to 99 by navigating the display menu as shown below.










### 3 Operator Setup Menu

The default settings for the machine are developed by Tanco for optimal operation of the machine. However, the operator can change certain parameters in the 'Operator Setup' menu to take account of operational conditions.

Parameter	Default	Application	Description
'Film Break'	OFF	N/A	N/A
'Double Drive'	OFF	1514S, 1514T only	Set 'ON' to enable both pairs of rollers to be driven.
'Stop Bale Rotation'	No	1510S, 1514S, 1514T only	Set 'Yes' to delay bale rotation for a preset time period after the wrap cycle begins.  This enables additional wraps of film to be applied for extra strength e.g. when wrapping two bales together.
'Delay to Slow'	1.0s 0.4s	1300EH, 1510S, 1514 1510T, 1514T	Determines the point of speed reduction at the end of the wrapping cycle
'Delay to Stop'	1.0s 0.9s	1300EH, 1510S, 1514 1510T, 1514T	Set to adjust the Stop position of the wrap arm
'Rotation After'	0.0s	All	Set time period to rotate the bale to an optimal orientation for unloading
'IN Hold Time'	0.0s	All	Sets the latch-on time period for closing the bale rollers. Effectively allows 'one touch' operation instead of having to hold the  switch in Automatic mode.  Does not apply when in Manual mode
'OUT Hold Time'	0.0s	All	Sets the latch-on time period for opening the bale rollers. Effectively allows 'one touch' operation instead of having to hold the  switch in Automatic mode.  Does not apply when in Manual mode
'Bale Hold ON'	0.0s	All	Sets the latch on time period for indexing a bale. Effectively allows 'one touch' operation instead of having to hold the  switch in Automatic mode (e.g. to index a ¼ turn).
Language	English	All	Sets the language for the display prompts.

## 9.0 ADJUSTING THE OVERLAP.

### 9.1 WRAPPING ARM SPEED.

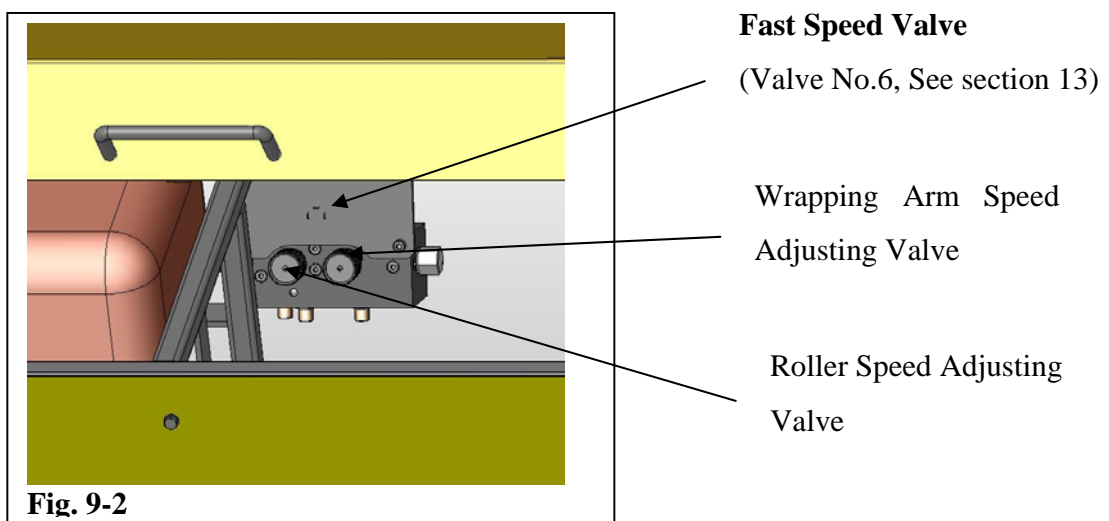
Load a bale on to the machine. To be able to adjust correct overlap, you have to leave the tractor cab while wrapping. Check that the wrapping arm has a speed of approx. 22 revolutions per minute. If not, adjust this by turning the control valve for wrapping arm speed. (See Fig. 9.2). When the wrapping arm speed is OK, you can set the overlap.

### 9.2 OVERLAPPING.

Use a black marker (or white if using black film) to mark a line on the middle of the film wrapped on the bale (See Fig. 9-1). Adjust the control wheel (See Fig. 9-2) for roller speed, so that the marker line is just covered. Approx. 52-53% is the ideal overlap.

**IMPORTANT:** If you have less than 50% overlap, what happens is that while most of the bale will have 4 or 6 layers, some narrow strips will have half that. Therefore **DAMAGE TO SILAGE!**

This adjustment can be kept as long as you wrap bales with approx. same diameter. When changing bale size, control the overlap.





## 10.0 OPERATING INSTRUCTIONS.

We shall now go through a complete wrapping process, from loading to unloading, and explain the practical use of Tanco 1804.



### 10.1 Fitting a roll of film.

See Section 6.0

### 10.2 LOADING.

For the first bale, ensure that the rollers are fully opened (See Section 2.1-4) and the dispenser is stationary, close to the film cut & start. Using a machine with an adequate lifting capacity the bale should be loaded parallel on the rollers. **Do not** drop the bale. The rollers will be level at this stage, this is normal.

### 10.3 Roller Width Adjustment

Operate the 'rotate satellite arm slowly button'  (See Section 2.3) This action will allow the rollers to move into there operating position, the rollers should cradle the bale and begin to rotate the bale. Now the  (See Section 2.3) can be used to rotate the bale.

Depending on the bale dimensions the roller width may require some adjustment, as shown in Diagram Fig 9.2 & 9.3



**Warning** See Section 2.4



Width Stops

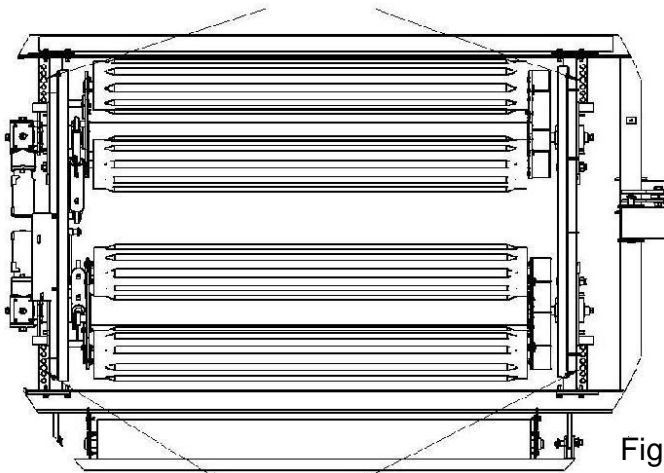


Fig 9.2

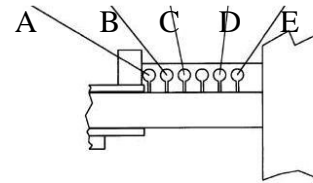


Fig 9.3

Width Stops

- |   |                          |   |                       |
|---|--------------------------|---|-----------------------|
| A | 120 Diameter round bales | D | 70 x 120 Square Bales |
| B | 60 x 80 Square Bales     | E | 90 x 120 Square Bales |
| C | 80 x 80 Square Bales     |   |                       |

The Bale should rotate smoothly; no 'tumbling' should be evident. If this occurs adjust one of the roller sets out one hole at a time. The rollers should always run parallel to one another.

**NB.**

The adjustments shown are a guide only, bale weight and condition may require different adjustments.

**10.4 HEIGHT ADJUSTMENT OF TOWER / PRE-STRETCHER.**

The pre-stretcher has to be adjusted so that the plastic film is always hitting the centre of the bale.



### **10.5 START.**

Remember that the plastic film end has to be locked in the Cutter/Film holder before starting the wrapping cycle. When the tail of the film is held in the holder, starting of the wrapping cycle in automatic mode will allow the tail of the film to be released automatically after 2 revolutions.

### **10.6 OVERLAP.**

There should be a film overlap of 50% - 53%. (for adjustment see Section 9.2) This should be checked frequently as changes in hydraulic oil temperature, contaminated oil or valve failure could result in the overlap increasing or decreasing.

### **10.7 HOW MANY LAYERS OF PLASTIC FILM?**

Depending on the moisture content and the type of bale being wrapped the typical layers required are;

- \* **4 layers – round bales**
- \* **6 layers – Square bales.**
- \* Follow your plastic manufactures guide on the film layers required

Using a 50% overlap (see section 10.6) cover the bale completely in film, then rotate the wrapping arm around the bale 1 more time. This number should be an even number (typically 8 rotations for a round bale). If a small square of plastic was removed from the side of the bale, 2 layers should be found. Note the total number of revolutions on the controller (see section 2.5) and then multiply it by 2 for 4 layers, 3 for 6 layers etc.



#### **10.8 STOP.**

One round before the required number of revolutions is obtained, the speed of the wrapping arm is reduced, the wrapping arm is then stopped when the plastic film is against the cutter. The wrapping arm is now in the right position for the next wrapping cycle. The cutter closes and the film is held tight in the Cut & Start and perforated. The bale is now completely wrapped and ready for offloading.

#### **10.9 STORAGE PLACE.**

The machine can be used in the field or at the point of storage.



## **11.0 PERIODIC MAINTENANCE.**

### **11.1 BEARINGS.**

All ball-bearings are packed with grease, and do not need any more maintenance.

### **11.2 PRE-STRETCHER.**

If the machine is in daily use, the Gears under the plastic cover on the dispenser should be greased when needed.

### **11.3 CUTTER / FILM HOLDER.**

The cutter / film holder is pre-adjusted from the factory and does not need further adjustments. When replacing spare parts, it is necessary to adjust it. The springs for the U-shaped slot shall be adjusted so that there is 8 - 10mm of bolt exposed below the plate.

### **11.4 CLEANING.**

The machine should be cleaned and oiled regularly during and at the end of the wrapping season.

### **NOTE !**

**When using high pressure washing apparatus, care must be taken with the electrical installation.**

**Also make sure that water is not sprayed directly into the bearings, etc..**

**Keep the control box protected from rain and water. If necessary use compressed air to dry electrical components.**

### **11.5 HYDRAULIC CYLINDERS.**

Make sure that all hydraulic cylinders are closed or the exposed cylinder rod is covered in grease when storing the machine.



**11.6 QUICK COUPLERS.**

Ensure that the quick couplers are kept clean and apply the dust caps after use.

**11.7 STORAGE.**

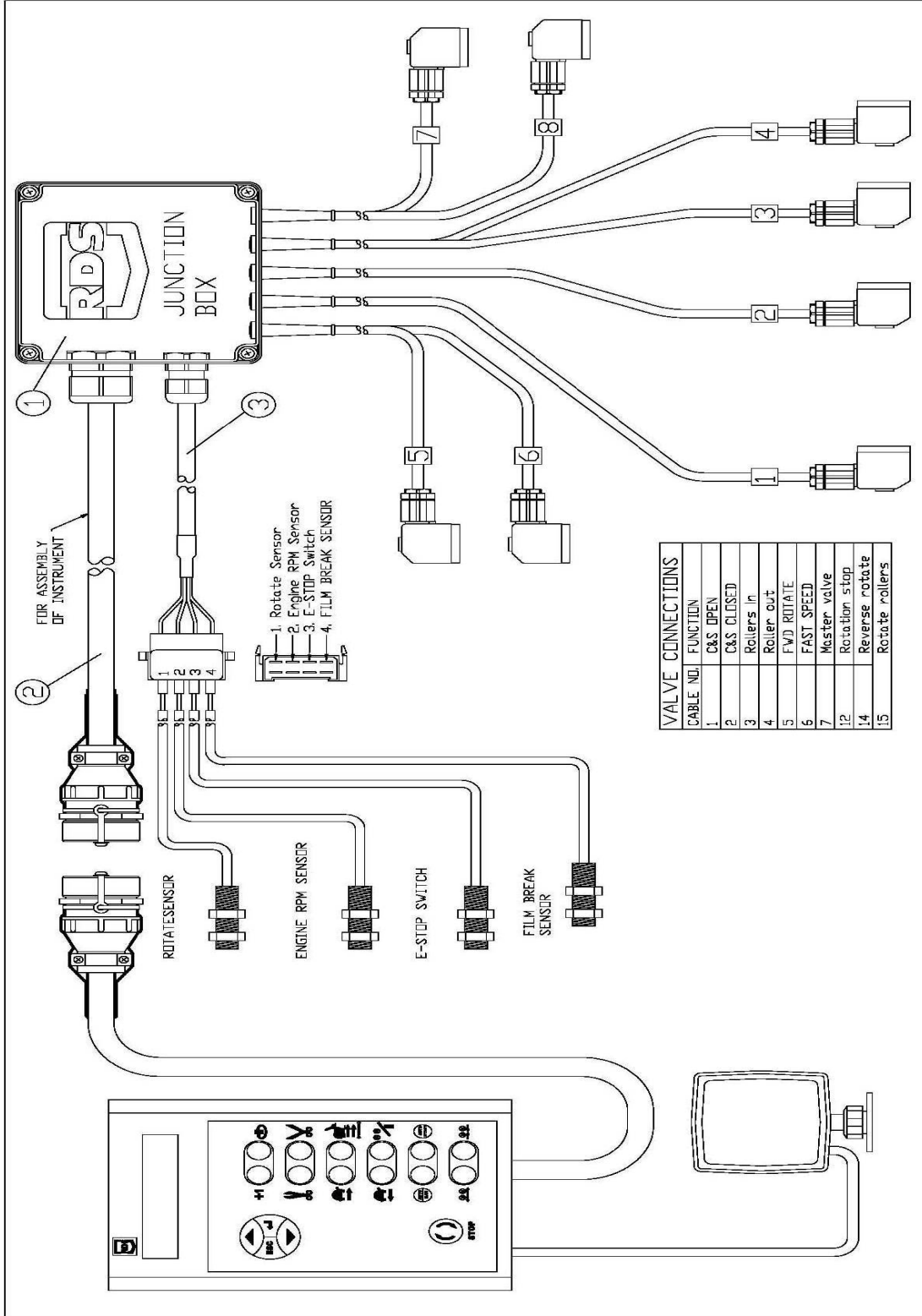
The machine should be parked on a dry place during the closed season.

**11.8 OIL FILTER.**

The oil filter must be changed once a year.

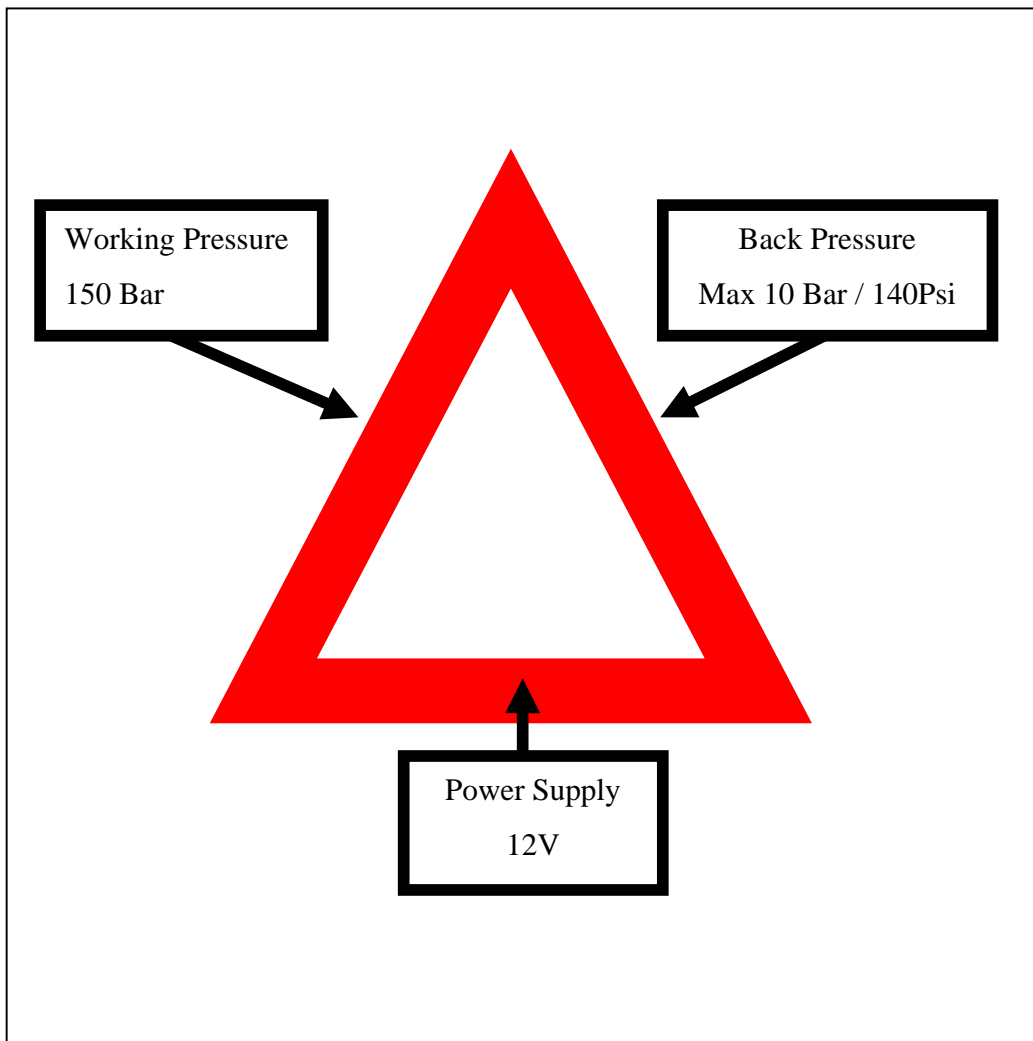


12.0 ELECTRIC CIRCUIT DIAGRAM 1804





There are 3 basics, which must **ALWAYS** be followed if the machine is to function correctly



### 13.0 DESCRIPTION OF HYDRAULICS.

TANCO AUTOWRAP 1800 is driven by a 3 cylinder Diesel engine. The machine operates an "Open Center". Hydraulic system.

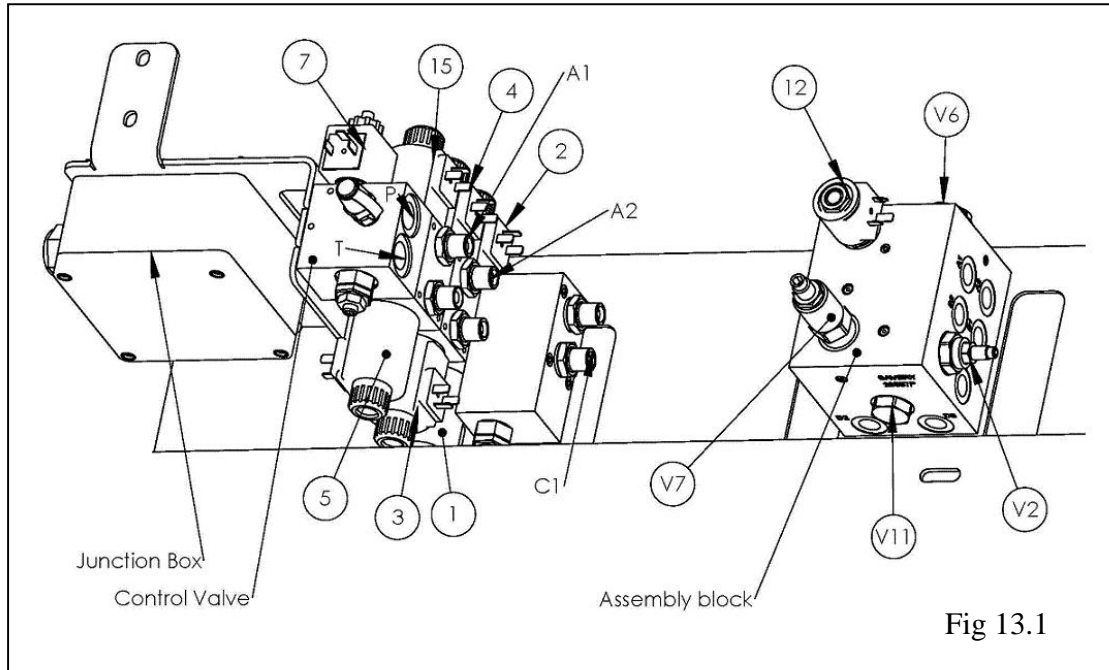


Fig 13.1

The numbers of the solenoid valves are identical with the corresponding numbers on the electric leaders.

<b>1</b>	<b>Cutter open</b>	<b>11</b>	<b>Roller Pause</b>
<b>2</b>	<b>Cutter Closed</b>	<b>V6</b>	<b>Prevents roller overrun when wrapping uneven bales</b>
<b>3</b>	<b>Rollers IN</b>	<b>V7</b>	<b>Sequence valve Roller leveling / rotate</b>
<b>4</b>	<b>Rollers Out</b>	<b>V11</b>	<b>Pilot operated check valve. Holds the rollers level during and after unloading.</b>
<b>5</b>	<b>Rollers level &amp; rotate for unload</b>		
<b>7</b>	<b>Master Valve</b>		
<b>15</b>	<b>Wrap Valve</b>		
<b>A1</b>	<b>Wrapping oil supply</b>		
<b>A2</b>	<b>Rollers Out oil supply</b>		
<b>C1</b>	<b>Cutter Closed oil supply</b>		

### 13.1 "OPEN CENTER" HYDRAULICS.

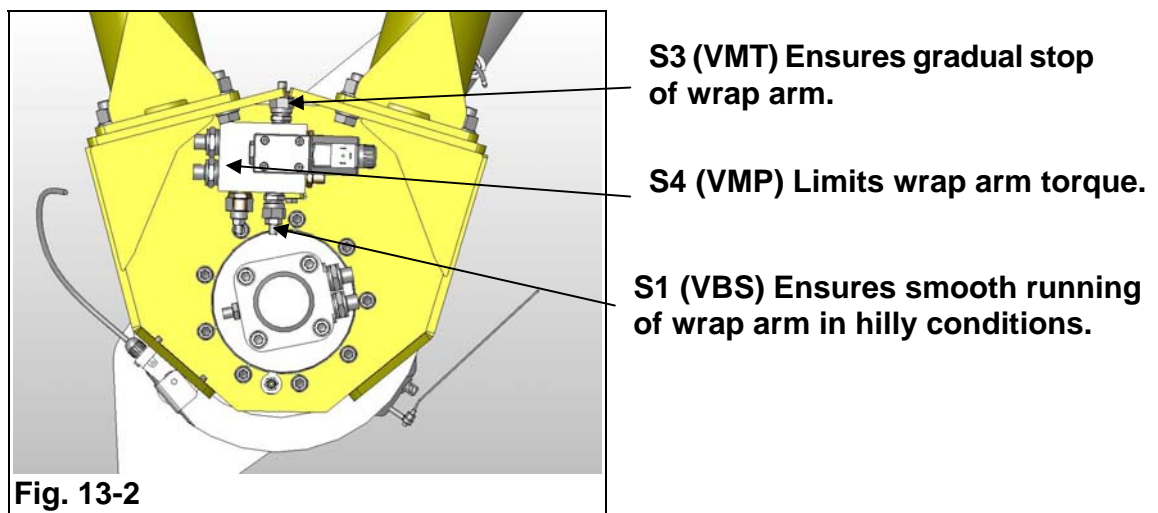
Most machines have an "Open Centre" Hydraulic System which delivers a continuous oil supply. The 1800 machine is set as standard to suit this. If no function is activated, the oil flows from the hydraulic pump, through the main valve block and back to the tank. When a function is operated, **MASTER VALVE (7)** closes the oil flow circuit to the return, and allows an oil supply for the required function.

### 13.2 THE CUTTER.

To prevent the oil pressure to the cutter from falling, so that it holds the film long enough, there is a piloted non-return valve underneath the solenoid valve on the main block.

Inside the block, there is also a non-return valve that prevents the oil leaking back through the valve. However sudden pressure impulses in the return system can open the piloted non-return valve allowing the cutter to open.

**13.3** The hydraulic system is equipped with a safety valve, which is preset to 185 bar. It opens for the oil circuit to tank if max pressure is exceeded. This valve is attached to the main valve block.





#### 13.4 WRAPPING ARM VALVE BLOCK.

The wrapping arm valve block is attached to the wrapping arm motor, and includes 4 valves.

These valves are carefully set in the factory and should not be tampered with.

When the wrapping arm starts, the oil pressure also goes to the brake so it is released. But we want a little delay here to prevent a too hard stop when the brake goes on. This is obtained by the mounting of a nozzle inside the fitting to the brake.

**a) Non return valve.**

It shall prevent the oil going back to the control valve for wrapping arm speed. It is placed inside the block, and can only be reached by removing the whole block from the motor.

**b) Safety valve on the plus side. (S3, fig.13-2).**

This valve shall provide a gradual stop of the wrapping arm and prevent accumulation of pressure on the motor's outlet side when the arm stops. The valve lets the oil flow from the outlet side of the motor to the input side.

**c) Safety valve on the minus side. (S4, fig.13-2).**

This valve limits the max. torque of the wrapping arm. The valve lets the additional oil over to the motors' outlet side. It is adjusted so that the pull force on the far end of the arm is approx. 35 KG.

**d) Holding valve. (S 1, fig. 13-2)**

This valve regulates the oil flow on the outlet side to be able to hold a constant input pressure to the wrapping arm motor. This makes the motor run smoothly, and the brake is not activated even if the wrapping arm rotates easy "downwards". (If the machine is at an angle while wrapping).

**IMPORTANT: All these valves have been carefully set in the factory. Incorrect adjustment of these may cause damage to the machine. Always ensure that trained personnel only adjust the settings of these valves.**



#### 14.0 CHECK POINTS BEFORE TROUBLE SHOOTING.

In this chapter we have some general check points that have to be examined first if something is wrong with the machine. In chapter 17.0 we have a more detailed trouble shooting.

There are three basic assumptions that have to be fulfilled if the machine shall function properly:

1. The oil pressure from the tractor should be 180 bar.
2. The return flow of oil has to be as free as possible, **max. 10 bar counter pressure.**
3. Enough electric power to all functions.

#### 14.1 OIL PRESSURE.

In order to check that the oil pressure into the machine is high enough, a gauge may be applied to the oil pressure hose, for example on the quick coupler. The pressure can be checked at the main control valve at the pressure test point.

If the pressure is less than 150 bar, there will be less power for the functions. The first place you test this is at the CUTTER OPEN / CLOSED

##### **OIL FLOW.**

The oil flow that the tractor delivers must be **minimum 15 liters/minute**, but it is recommended that it is 25 liters/minute. (Max. allowed oil amount is 40 liters/minute).

**REMEMBER! Large oil amount = Valves get hot. (Small oil tank = insufficient cooling).**

#### 14.2 RETURN PRESSURE.

The return pressure can be too high. With high return pressure the machine's functions will get less power. High return pressure means also that you need more power to operate the valves.

**MAX. ALLOWED RETURN PRESSURE IS 10 BAR.**

We recommend "free return" directly to the tank.



### 14.3 ELECTRIC POWER.

It is important to check that all functions receive enough electric power. If not, some, or all functions may fail.

#### **Is the battery voltage high enough?**

If the voltage falls below 9 volts the valves will not be able to open.

#### **Are the cables correctly connected to the battery?**

Follow directions in chapter 4.4

#### **Is the connection between battery cable and control unit OK?**

Clean off the poles and check the plug.

#### **Is the connection between remote control unit and machine OK?**

Change contacts if any doubt about the condition.

#### **Is the fuse on the battery cable OK?**

**PLEASE CONTACT YOUR DEALER IF YOU ARE IN DOUBT ABOUT ANYTHING.**

**(Remember, always to give your dealer the serial number and production year of your machine when contacting them dealer and ordering spare parts).**

### 15.0 PROCEDURE OF TROUBLE SHOOTING.

#### 15.1 SOLENOID VALVES.

When checking if the Solenoid valves are receiving electric power, you do this in the following way:

1. Unscrew the nut that holds the solenoid.
2. The solenoid is easy to move without electric power.
3. Push the current function on the remote control. If the solenoid gets power, it will be difficult to move, it "sticks". This is the best and easiest way to check if the solenoid valve is receiving electric power. Another way is to hold a screwdriver up to the magnet. If it "sticks", the solenoid is receiving electric power.

The power supply to the valve can also be measured with a voltmeter, but then the contact must be connected to the solenoid, so it is using power.

To have reliable functions, the voltage should not be lower than 11,5 volts, even if the solenoid valve usually works with a little lower voltage.



**15.2 Only for solenoid valves to the main functions.**

If the electric supply is in order and one of the functions fails, the reason can be dirt that tightens or prevents the sliding shaft (spool) from moving.

Try to maneuver the function manually, by pressing the point of a screwdriver into the end of the valve housing. **At the same time the corresponding switch on the control unit has to be operated to get electric power to the master valve.** If the function is working again after this, the dirt may have been pushed out in the oil system and the machine can be operated normally again.



**Take care so that the machines moving parts, do not cause damage to persons or objects.**

**16.0 TROUBLE SHOOTING.**

**16.1 THE MACHINE DOES NOT FUNCTION.**

a) Even if the gauge shows enough pressure and there is no reaction in the machine. The reason could be that one, (or both), of the quick-couplers does not open for the oil.

**Change quick couplers.**

b) The counter pressure could be too high.

**Max. allowed counter pressure is 10 bar.** (See chapter 14).

c) Make sure that the open / closed valve is correctly positioned.

(Disturbances of this type, a, b or c, are most likely in the first days that the machine is in use).

**16.3 THE CUTTER WILL NOT HOLD THE FILM.**

The pressure is falling and the springs start to lift the cutter. (See chapter 14.2).

**16.4 THE WRAPPING ARM WILL NOT ROTATE.**

a) The bolt that secures the wrapping arm during transport has to be removed so that the wrapping arm can move freely.

b) Check valve 1. (See fig. 13-2). Screw all the way in and test. Adjust to required power.

c) The safety valve, (S3, fig. 13-2), can be leaking, so that the oil is passing by





the wrapping arm motor. Dismantle and try out if the sliding shaft can move freely.

- d) The control valve may be blocked. Dismantle and check if the valve works normally. Do not use sharp tools
- e) Check if the oil motor is working  
**Ask your dealer for advice BEFORE you make the problems bigger and repairing more difficult.**
- f) If the emergency stop\* has been activated. To start the machine the control box must be reset (See also chapter 5.0).

## **16.5 THE ROLLER WILL NOT ADJUST.**

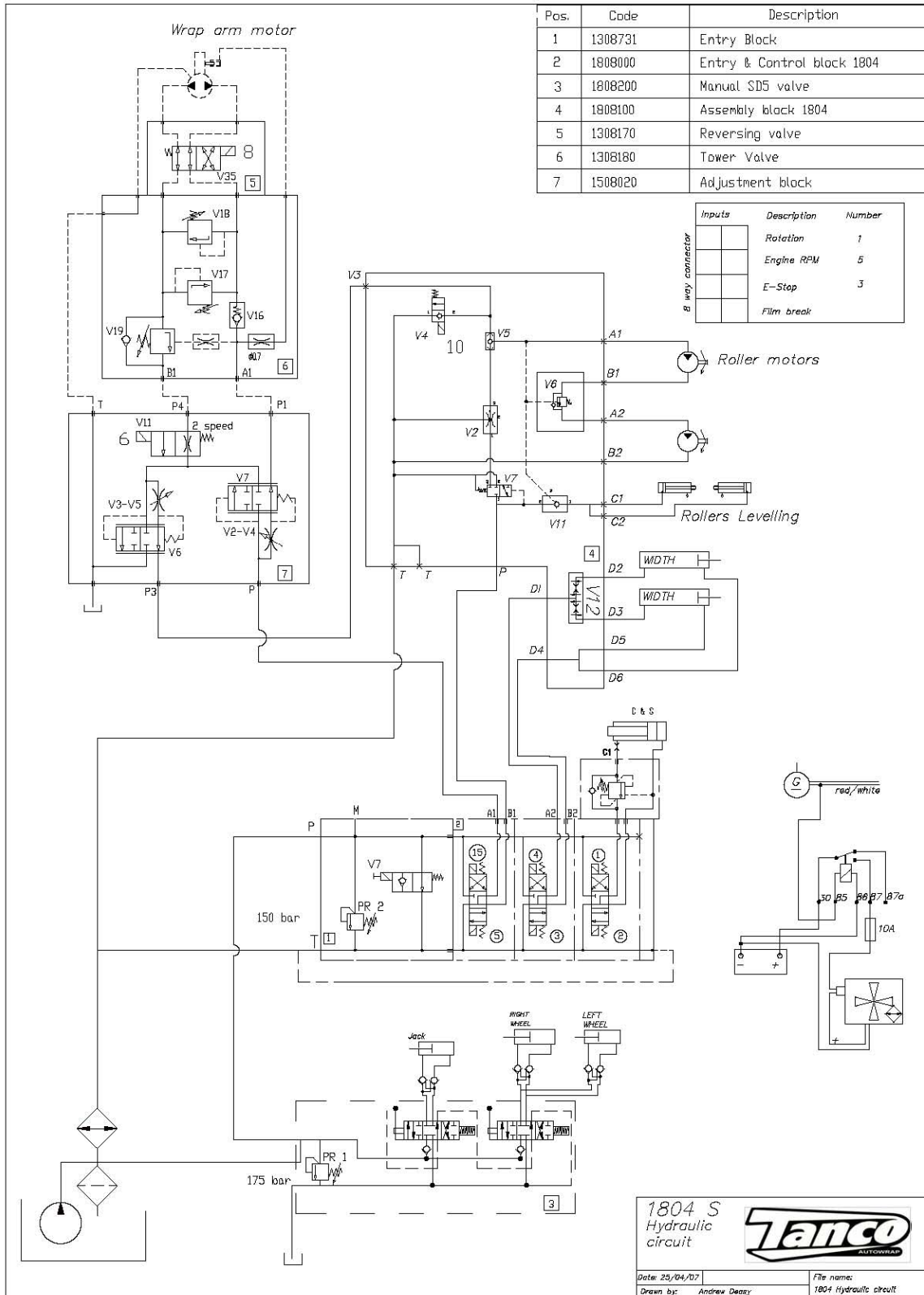
### **I. Is the Solenoid valve receiving enough electric power ?**

When the power source is tapped by several users at ones, the voltage can fall so much that all the functions will cut out, or only the width regulating. Check the power source and measure the voltage.

### **I. Check the bypass valve**

If this is receiving enough power and has free flow, the problem must lie in the solenoid valve.

17 Hydraulic Circuit





**18.0 Declaration of conformity**

**EC DECLARATION OF CONFORMITY**

**ACCORDING To DIRECTIVES 89/392/336 /EEC AS AMENDED**

**Manufacturer:**

**TANCO ENGINEERING Co LTD  
BAGENALSTOWN  
CO CARLOW  
IRELAND**

**CERTIFIES THAT THE FOLLOWING PRODUCT:**

**TANCO AUTOWRAP 1804**

**SERIAL NO:**

To which this declaration relates, corresponds to the essential requirements of the Directive 89/392/336/EEC as amended.

To conform to these essential health and safety requirements, the provisions of the following harmonized standards were particularly considered:

EN 292-1,2, EN 294, EN 1152, prEN 703, prEN 811, prENI553, prEN 982.

**DATE: 01.12.2006**

**SIGNATURE:**

*Andrew Deasy*

Andrew Deasy

**TECHNICAL MANAGER**