

PALLET CRUSHER

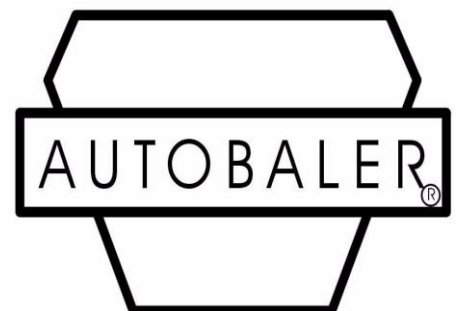
OPERATION AND MAINTENANCE MANUAL

PALLET BREAKER



Trethewey Industries

14 Carl Baer Circuit
Deepwater NSW 2371
Australia



www.autobaler.com
Customer Service Number: 1800 888 403

Declaration of Conformity

Application of EC Directive(s)

Standard(s) to which Conformity is declared:

MD: 98/37/EC Machinery Directive

LVD: 73/23/EEC Low Voltage Directive

EMC: 89/336/EEC EMC Directive

Manufacture's Name: Trethewey Industries Pty Ltd

Manufacture's Address: 14 Carl Baer Circuit, Deepwater NSW 2371

Description of Equipment: **AUTOBALER®**

Model: **Pallet Breaker**

Trethewey Industries Pty Ltd hereby declares that the product(s) specified above conform to the above directive(s) and Standard(s). This apparatus must not be put into service until the equipment into which it is incorporated has been declared in conformity with the essential requirements of the relevant EC directives.

Full Name: Reginald Trethewey

Signature: _____

Position: Director

Date: _____

For and on behalf of Trethewey Industries Pty Ltd, Deepwater NSW, Australia Compliance

Compliance assessed and approved by:

Owners Manual

Thank you for choosing Autobaler® Pallet Breaker. It is our wish that you remain very happy with the performance and service given by your Pallet Breaker and our service backup staff.

For operating this Machine properly, please take time to read this manual thoroughly before starting operating your baler.

Keep this manual handy for future reference.

The information contained in this manual is basic information. If you require information over and above what is supplied in this manual, please contact the Autobaler® service hotline on 1800 888 403.

Model covered by this manual

Pallet Breaker

Note

Training is required to operate Autobaler machines.
Training is required to service Autobaler machines.

Autobaler products are protected by International Patents and Patent Applications.

OPERATION AND MAINTENANCE MANUAL

USER MANUAL

SPECIFICATION MANUAL

MACHINE - AUTOBALER® and CYBERSMART CONTROLLER
MODEL - Pallet Breaker

AUTOBALER SERIAL NUMBER: _____
CONTROLLER: Cyber Micro Serial No: _____

Name and Address of Manufacturer

Trethewey Industries
14 Carl Baer Circuit
Deepwater
NSW 2371
Australia

Please Read This Document before Operating the Machinery

WARRANTY

To maintain warranty the Pallet Breaker must be serviced in accordance with the manufactures recommendations.

The firm guarantees the machine described herby, has been designed in compliance with all regulations in force, in particular, safety and health regulations. The machine has undergone successful testing. (See test certificate enclosed.)

The warranty covers a period of 12 months. It does not cover electrical motors and tools. Extended warranty to is available

The purchaser is entitled to the replacement of faulty parts. Shipping and packing costs are at the purchaser's expense.

The warranty does not cover damage caused by: Falls or careless handling of the machine, incorrect operation, and non-compliance with the maintenance rules. Any tampering with the machine, especially with its safety devices automatically voids warranty. The manufacturer will be freed from any responsibility.

No claim for damages shall be accepted in cases where the machine has been laying idle for a long period of time.

The serial number on the machine is a main reference for the warranty, instructions manual, after sale service and identifies the machine in case of need.

Serial Number must be quoted in all correspondence.

NOTES

The machines are manufactured in compliance with the accident prevention rules in force.

The machines strictly comply with the instructions contained in the manual to obtain the best performance from the machines. Strict compliance with the rules contained will ensure optimum results and avoid any inconvenience caused by the non-compliance of operation and maintenance instructions.

To avoid contacting the manufacture for problems which can be easily solved, closely follow the instructions given below.

If after having strictly complied with the instructions given, the buyer still needs the help of our technical assistance service, he must supply all the technical indications necessary to determine correctly. This will enable our technical assistance service to intervene quickly and efficiently on the machine

Copies of the instructions manual may be requested upon indication of the machine serial number.

IMPORTANT

Upon delivery of the machine, the consumer must make sure that all the devices indicated in the paragraph on the safety manual are present and working correctly. Furthermore, he must mount in conformity with the instructions indicated the devices which are not mounted at the time of delivery to facilitate transport.

When ordering spare parts it is necessary to state:

- Machine Model
- Serial Number and Year of Manufacture
- Item Reference Number

Without serial number, no spare parts will be delivered!

DEFINITIONS

User: The person body or company who has brought or rented the machine and intends to employ the users trained and inducted in the safe use & operation.

Operator: The physical person authorised by the user or a representative of Trethewey Industries to operate the machine after having been suitably trained on the use and specific risks of the machine.

Authorised Person: The physical skilled person authorised by the user to carry out maintained or setting up operation on the machine.

Dangerous Zone: Any person who finds himself in a dangerous zone as marked on the baler either entirely or partially.

PURPOSE OF MACHINE

This machine has been designed to be used mainly for the reduction of light duty pallets.

The Pallet Breaker can be used for a range of suitable materials industry most building materials, no ceramics or metal objects as these may result in machine damage.

Use differing from the above is to be considered inappropriate and prohibited. The machine operator must be trained and informed of risks and must have the instruction manual at his disposal

The operator must not work with any guards or safety devices inoperative or missing. The Pallet Breaker must not be operated.

RISKS

During the pressing phase, the operator must never put hands or use tools in the crushing area.

Copyright Manual

INDEX

1) SCOPE

▪ Background	9
▪ Manufacturing plate	10
▪ Compliance certificates	11 - 14
▪ Test reports	15 - 18
▪ Risk Assessment	19

2) **WARNINGS** 20

3) COPY OF WARNING NOTICES 21- 22

4) LIFTING AND HANDLING INSTRUCTIONS 23

▪ Baler specifications	24
▪ Removing the baler off the pallet	25
▪ Positioning the baler on the pallet	25

5) PRE- INSTALLATION INSTRUCTIONS

▪ Pre – Installation Check	26 - 27
▪ Safety	27 - 28
▪ Commissioning of the baler	29 - 30
▪ Controller Operation	31

6) OPERATING PROCEDURES

▪ Twining up the baler	32
▪ Tying off a full bale	32
▪ Removing the bale	33

7) TRAINING PROCEDURES

▪ Safety Procedure for Training	34
▪ Machine Operation	34
▪ Trainee Particulars	35 - 36
▪ Trainee Questionnaires	37
▪ Safety Sheet	38

8) SETTING AND MAINTENANCE

▪ Maintenance	39
▪ Machine Cleaning	40
▪ Servicing – Hydraulics	41 - 42
Lubrication guide	43
Safety checklist	44 - 45

9) MAINTENANCE INSTRUCTIONS

46

10) MAINTENANCE INTERVALS AND LUBRICANTS

▪ Oils and Lubricants	47
▪ Specifications	48 - 49
▪ Material Safety Data Sheets	50 - 55

11) FAULT FINDING PROCEDURE

56 - 57

12) PARTS LIST

58

13) FLOOR PLAN

59 - 60

14) CybaMicro® OPERATORS MANUAL

61

CHAPTER 1

SCOPE

Background

Pallet Breakers are a versatile machine being able to crush a large range of materials i.e.; cardboard, plastic drums and most other crushable materials.


Trethewey Industries have vast experience in the manufacture of quality recycling machines, having produced in excess of 5000 agriculture baling machines. Five years ago Trethewey's developed the Autobaler for commercial use, in particular to be used in Supermarkets and Recyclers. Trethewey Industries are situated on the New England Hwy at Deepwater NSW. Trethewey Industries location is ideal for servicing our national markets. Trethewey Industries focus is to develop machines which totally satisfy our customer requirements in performance, quality, service, economy and safety.

Requirements: TI Pallet Breaker are built to comply with the highest national and international standards as follows.

Autobaler Pallet Breakers® are protected by International Patents and Patent Applications.

SCOPE

Manufacturing Plate:

TRETHEWEY INDUSTRIES Pty Ltd	
A.B.N. 84 072 739 827	
<i>Innovative Design & Manufacturing</i>	
	New England Highway DEEPWATER NSW 2371
Tel: 02 6734 5403 Fax: 02 6734 5433	
EMAIL: trethewey@northnet.com.au	
WEBSITE: www.autobaler.com	
+ PATENT No's +	
MODEL:	
S/N:	
BATCH No:	
RATED VOLTAGE:	
NUMBER OF PHASES:	
FREQUENCY:	
FULL LOAD CURRENT: AMPS-	
Date of Manufacture:	

DECLARATION OF CONFORMITY

98/37/EC Machinery Directive
73/23/EEC Low Voltage Directive
89/336/EEC EMC Directive

Name of manufacturer or supplier

Trethewey Industries Pty Ltd

Full postal address including country of origin

14 Carl Baer Circuit, Deepwater NSW 2371, Australia

Description of product

Pallet and conventional crushing machine

Name, type or model, batch or serial number

Type - Autobaler Make - Trethewey Industries Pty Ltd

Model – Pallet Breaker Location – 14 Carl Baer Circuit, Deepwater, NSW 2371 Australia

Supply - 415V ac 3- Serial No: _____

Mass Weight - _____

Standards used, including number, title, issue date and other relative documents

See attached sheets

Place of issue

Address of Authorised representative in Europe

Name of authorised representative: _____

Position of authorised representative: _____

Full postal address if different from manufacturers

Address of Authorised Representative in Europe

Declaration

I declare that as the authorised representative, the above information in relation to the supply / manufacture of this product, is in conformity with the stated standards and other related documents following the provisions of the above Directives and their amendments.

Signature of authorised representative _____ Date _____

Autobaler®

EN ISO 12100-1	Safety of machinery - Basic concepts, general principles for design – Part 1 Basic terminology, methodology
EN ISO 12100-2	Safety of machinery - Basic concepts, general principles for design – Part 2 Technical principles and specifications
EN 294	Safety of machinery Safety distances to prevent danger zones being reached by the upper limbs
EN 349	Safety of machinery Minimum gaps to avoid crushing of parts of the human body
EN 418	Safety of machinery - Emergency 'stop' equipment, functional aspects Principles for design
EN 811	Safety of machinery Safety distances to prevent danger zones being reached by the lower limbs
EN 953	Safety of machinery - Guards General requirements for the design and construction of fixed and movable guards
EN 954-1	Safety of machinery - Control systems - Part 1 General principles for design
EN 982	Safety of machinery Safety requirements for fluid power systems and their components - Hydraulics
EN 1037	Safety of machinery Prevention of unexpected start-up
EN 1050	Safety of machinery Principles of risk assessment
EN 1088	Safety of machinery - Interlocking devices associated with guards Principles for design and selection
EN 60204-1	Electrical - equipment of machines Part 1 General requirements
AS 4024.1	Electrical Equipment

Trethewey Industries Pty Ltd

14 Carl Baer Circuit
Deepwater
NSW 2371

20 August 2008

ASSESSMENT REPORT AUTOBALER PALLET BREAKER FOR COMPLIANCE WITH MACHINERY DIRECTIVE 98/37/EC

THIS REPORT IS PREPARED BY RISKPLANT CONSULTANTS PTY LTD FOR RISK MANAGEMENT PURPOSES, AND ITS CONTENTS ARE PROVIDED EXPRESSLY FOR THE NAMED CLIENT FOR ITS OWN USE

NO RESPONSIBILITY IS ACCEPTED FOR THE USE OF, OR RELIANCE UPON THIS REPORT, IN WHOLE OR IN PART, BY ANY THIRD PARTY.



INSPECTION & ASSESSMENT METHODS

EN 292 Safety of machinery - basic concepts, general principle for design

EN 1050 Safety of machinery - Principles of risk assessment

EN 418 Safety of machinery - Emergency 'stop' equipment, functional aspects

EN 954.1 Safety of machinery -Safety related parts of control systems

EN 1088 safety of machinery - Interlocking devices associated with guards

EN 294 Safety of machinery - safety distances to prevent danger zones being reached by the upper limbs

EN 60204 Safety of machinery - Electrical equipment of industrial machines.

Baler Test Report

Comprehensive Autobaler® Test Report

Date:	<input type="text"/>
Serial No:	<input type="text"/>
Testing Officer:	<input type="text"/>
Electrical Test Performed By:	<input type="text"/>
Noise Emission Test:	<input type="text"/>
Hydraulic Test:	<input type="text"/>

Autobaler® Quality and Reliability Test Full Mechanical Test

Test Report No:	<input type="text"/>
Testing Officer:	<input type="text"/>

Operational Test Report No:	<input type="text"/>
Testing Officer:	<input type="text"/>

Lubrication Test Report No:	<input type="text"/>
Testing Officer:	<input type="text"/>

Testing Officer:	<input type="text"/>
-------------------------	----------------------

Signature:	<input type="text"/>
-------------------	----------------------

Hydraulic Pressure and Performance Test

“Report on Safety and Hydraulic Performance”

This report is suitable for pressure systems below 2500 psi.

System Pressure Required:	<input type="text"/>
System Pressure on Test:	<input type="text"/>
System Pressure Spikes:	<input type="text"/>
Pressure Switch Firing Range:	<input type="text"/>
Pressure Switch Firing Test:	<input type="text"/>
Hydraulic Delivery Hose Rating:	<input type="text"/>
Fluid Type and Grade:	<input type="text" value="Hydraulic 32 Grade"/>
Cylinder Brand and Type:	<input type="text"/>
Duration of Cycle Test:	<input type="text"/>
Date:	<input type="text"/>
Inspector:	<input type="text"/>
Signature:	<input type="text"/>

Noise Emission Test Report

Baler Noise Emission report - the test done from five positions:-

- a. From each side at a distance of 1m from the machine
- b. At a distance of 1m above the machine

Decibels monitor type and number:

Tenma 72.6604

Test one metre from front:

Test one metre from left side:

Test one metre from right side:

Test one metre from back:

Test one metre above machine:

Injury precautions required:

Ear Protection Must be worn if
noise exceed 85 DB

Date of Inspection:

Inspection No:

Inspector:

Signed:

Earth Bonding and Electrical Test

Report on Safety Inspection and Testing of Electrical Equipment

This report is suitable for class 1 protectively earthed 3 phase 415V equipment.
The test has been carried out in accordance with AS/NZS 3760, with the following electrical and visual inspections:

500V Insulation Resistance Tests

- | | | | | |
|----------------------|------|--------------------------|------|--------------------------|
| • Active 1 to earth: | Pass | <input type="checkbox"/> | Fail | <input type="checkbox"/> |
| • Active 2 to earth: | Pass | <input type="checkbox"/> | Fail | <input type="checkbox"/> |
| • Active 3 to earth: | Pass | <input type="checkbox"/> | Fail | <input type="checkbox"/> |

Earthing continuity:	Pass	<input type="checkbox"/>	Fail	<input type="checkbox"/>
----------------------	------	--------------------------	------	--------------------------

Flexible supply cord:-

- | | | | | |
|--|------|--------------------------|------|--------------------------|
| • External visual inspection of
plug connection: | Pass | <input type="checkbox"/> | Fail | <input type="checkbox"/> |
| • Visual inspection of cord
termination to equipment: | Pass | <input type="checkbox"/> | Fail | <input type="checkbox"/> |

Visual inspection of wire termination in electric motor terminal housing:	Pass	<input type="checkbox"/>	Fail	<input type="checkbox"/>
--	------	--------------------------	------	--------------------------

Date:	<input type="text"/>
-------	----------------------

Inspection number:	<input type="text"/>
--------------------	----------------------

Inspector:	<input type="text"/>
------------	----------------------

Inspector registration number:	<input type="text"/>
--------------------------------	----------------------

Signed:

Trethewey Industries

New Machinery Hazard Identification Assessment and Control

Description: Autobaler

Model: HK140 Combo

Brand: Trethewey Industries

Developed in Co-operation between AWISA and Australian Chamber of Manufacturers
This program is based upon the Australian WorkSafe Standard for Plant NOHSC: 1010-1994

Item No.	Hazard Identification	Hazard Assessment	Risk control Strategies
A	Entanglement	Nil	
C	Cutting, stabbing, puncturing	Nil	
D	Shearing	Nil	
E	High Temperature	Nil	
F	Striking	Nil	
G	Crushing	Nil	
H	Electrical	Low	
O	Other hazards, noise dust.	Nil	

CHAPTER 2



Warning

Equipment Service Hazard

- Unauthorized service or adjustment of this machine can cause serious injury. Only those qualified and approved by the manufacturer and make adjustments or perform service on this machine.
- Operators must be trained in the safe operation of this machine.
- Do not alter, modify or adjust this machine if untrained to do so.
- Service technicians: When servicing, adjusting or repairing this machine, basic safety equipment must be worn i.e. compliant boots, safety glasses, long sleeve clothing etc.
- Three areas of hazard exist when servicing or repairing this machine that service technicians must be aware of.

Hazard 1: Hydraulic Systems have high pressure oil flow, hoses or hydraulic fittings or any hydraulic component must not be removed or adjusted during operation.

Hazard 2:

The machine system is controlled by a Starlogixs controller. This controller contains dangerous high voltage- this voltage resides at three points.

1. At the controller all components within have dangerous voltage.
 2. At the door limit switch this switch has mains voltage.
 3. At the pressure switch situated in the hydraulic system this is mains voltage.
- **All electrical work must be performed by a qualified electrician.**
 - **Crusher must not be operated if fault or damage is detected in the system.**
 - **Carefully follow the manufacturer's instructions for personal safety with the above issues**

CHAPTER 3

Warnings

- 1) Autobaler machines must only be operated by qualified people
- 2) Only qualified people to service or repair Autobalers
- 3) Before servicing or repair familiarise yourself with the relevant instruction manual
- 4) The Autobaler must not be used in a manner contrary to the manufacturer's instructions.
- 5) Prior to moving the Autobaler ensure the fork lift capacity is at least 2 tonne.
- 6) On installation or repair ensure the machine is effectively earthed. (All electrical work to be carried out by qualified electrician).
- 7) Always disconnect the electrical supply before servicing or repair due to electrical hazard

Failure to observe Safety Precautions could lead to severe injury.

We recommend operators using the following personal protective equipment:-

1. Safety glasses
2. Safety shoes
3. Safety gloves

COPY OF WARNING NOTICES ON MACHINE
(INCLUDING NAMEPLATE)



CHAPTER 4

Lifting and Handling Instructions of the baler

IMPORTANT

**Removing the Pallet Breaker from the transport pallet:
Using heavy duty 12mm D shackles, attach a lifting sling or lifting chain to the two lifting eyes (circled red) and lift from pallet.
All lifting gear must be rated at 1500kg or more.**



Illustration 1

PALLET BREAKER AUTOBALER®

<i>Transport width</i>	<i>1600+ Pallet</i>
<i>Operating width</i>	<i>1700</i>
<i>Depth</i>	<i>1050</i>
<i>Transport height</i>	<i>1900</i>
<i>Height on pallet</i>	<i>2050</i>
<i>Crushing chamber</i>	<i>1220x 200x 1150</i>
<i>Cycle time</i>	<i>30 seconds</i>
<i>Crushing force</i>	<i>50,000kg</i>
<i>Motor 3 phase</i>	<i>5kw</i>
<i>Baler mass</i>	<i>1100kg</i>
<i>Shipping weight</i>	<i>1100kg+ Pallet 50kg</i>

The following procedure is for the safe transportation and movement of the Pallet Breaker®

1. REMOVING THE MACHINE FROM THE PALLET

- a. Unwrap and cut metal strapping
- b. Attach lifting strap or chains; *Illustration 1*
- c. Lift the machine no more than 80mm off the pallet.
- d. Lift sufficiently i.e. 50mm to clear the pallet, slide the pallet beneath the baler with caution

Note: When transporting the machine where lifting on a truck is required

- a. Always transport on a solid hardwood pallet
- b. Never lift the machine more than 300mm unless on a pallet.
- c. If lifting the machine from beneath the baler base, fasten the machine to the fork mask using strap or chain
- d. When lifting the machine more than 300mm, always be on level ground and never transport the machine in an elevated position
- e. When transporting or moving the machine on the fork lift, always travel in reverse to ensure good vision
- f. **Safety Equipment: Compliant safety boots, high visibility vest, hearing protection, eye protection and head protection if required.**

2. POSITIONING THE AUTOBALER ON THE PALLET

(NEVER LIFT BEYOND THE FORK LIFT TRUCK'S CAPACITY) from beneath the machine

- a. Before attempting to lift, ensure that the fork lift tines are fully through. Dismount the fork lift and check to ensure fork lift tines are fully inserted
- b. Lift the machine 200mm off the floor
- c. Slide the pallet equally under the baler from the side, ensure that the pallet can be lifted from the front
- d. Lower the machine gently onto the pallet and strap the machine to the pallet if transporting a long distance

3. POSITIONING THE MACHINE ON THE PALLET

When loading the machine for its final destination, the machine is to be loaded in such a way so as to facilitate the removal at the customers end, i.e. if the machine is to be unloaded using a forklift truck, the pallet will need to be situated to facilitate this but if the baler is to be unloaded using a pallet jack, then the pallet containing the machine needs to be situated to facilitate this (which would be a 90 degrees)

CHAPTER 5

PRE-INSTALLATION INSTRUCTIONS

Trethewey Industries Autobaler products undergo a thorough quality check before they are dispatched from the factory. This ensures that they are all in perfect operational order. Due to varying conditions experienced during the transport process, the Autobalers require a pre-installation and pre-commissioning check.

N.B Installation and Commissioning of the AutoBaler should be carried out by approved personnel with trainer accreditation.

Pre-Commissioning & Assembly Check

Remove all wrapping from the Autobaler, cutting metal straps attaching the Autobaler to disposable pallet.

Use a fork lift to remove the Autobaler from pallet, re-locate Autobaler to site chosen for use. Assess site for obvious that the chosen site may present a hazardous situation, make the client aware of the potential danger and suggest an alternative location.

When the Autobaler is satisfactorily located, check for obvious damage from transport and handling. This check should include such items as:-

- Damaged or severed power leads
- Bent or twisted cowlings or guarding

Check the Autobaler for moisture contamination, The manufacturer recommends that Autobalers not to be transported in a manner that could cause water contamination to the electric's and the electronics. If water contamination has occurred, the Autobaler should not be connected to the power supply until the installer is fully satisfied that the moisture risk no longer exists. In case of severe water contamination, dismantling of the following may be required to allow evaporation of the trapped moisture:-

- Motor junction box
- Solenoid valve coils
- Electronic Controller Unit, if contamination is suspected in this unit, contact the manufacturer, Starlogixs 02 67 345 262

If moisture is present, allow to dry thoroughly. If excessive water contamination has occurred to the controller unit, it may require replacing with a dry unit. In many cases, this is the best option. Moisture in sensitive electronic components may take long periods to dry thoroughly. Attempting a start-up with a moist unit may result in serious damage to the Controller Unit.

CHECK THE ELECTRIC'S

- Check the plug unit for damage or loose wires
- Check the lead from the plug to the controller unit for damage, if in doubt, use an appropriate multimeter
- Check the power connection units at the bottom of the controller unit for firm undamaged connections
- Check the power entry to the motor junction box, if damaged or a fault is suspected, call a qualified electrician
- Check the wall socket, do not connect to a wall socket (point) that shows damage or is in poor repair

CHECK HYDRAULIC SYSTEM

Check fluid level in the reservoir. The oil should be showing on the dip stick. If fluid is not shown, add 32-grade hydraulic fluid until presence is indicated. **Caution - Do Not Over Fill. Ensure cylinders are fully closed and do not exceed the levels on the site glass or dip stick.**

- Check oil tank for transport damage
- Check hydraulic hoses, if damaged, replace. (check with manufacturer for correct hose type)
- Check for obvious leaks, and systematically check tightness of all fittings.

CHECK ROTATION OF MOTOR

Plug into power source and turn on, turn Autobaler key onto the “on” position, release Emergency Stop by turning clockwise if necessary. Immediately stop by pressing “Emergency Stop”, and view rotation of motor. If it is not running clockwise, the polarity can be changed see CybaMicro® Manual Chapter 14, contact a qualified electrician

MACHINE LOCATION - SAFETY

A. Location of Autobaler:

- a. Never place the Autobaler in a position where unauthorised persons have access.
- b. Always consult an OH&S officer prior to installation

B. Area of Operation:

- a. Ensure that electric lead is not in a hazardous position and is not left lying on the floor, particularly if there is a chance of water being on the floor.

C. Operation of Pallet Breaker:

- a. Always keep hands and arms out of the machine during operation.
- b. Always, wait until the motor stops and turn the key to the “Off” position.
- c. Always be aware of door rebound when opening the top door, always stand to the side.
- d. Never attempt to operate pallet breaker with the front door open.
- e. Never attempt to clean, lubricate or work in the vicinity of the cylinders during operation.

SAFETY CLOTHING / FOOTWEAR

- a. During assembly, location and operation of the machine, safety compliant footwear must be worn.
- b. Firm fitting work place compliant clothing must be worn.
- c. Safety compliant work place gloves, hearing protection and eye protection must be worn.

GENERAL

**Always remove Autobaler key when machine is not in operation, or is unattended.
Trethewey Industries recommend that the following checks be carried out:-**

WEEKLY

- a. Check safety guards around moving parts. Are they in place? Are they damaged?
- b. Check Autobaler key switch, is it functional and in good order?
- c. Check emergency stop button, is it functional and in good order?
- d. Check power lead, is it undamaged? Is it clear of any moisture?
- e. Check Autobaler response to opening door. Opening more than 50mm (approx 2 inches) should cause the machine to cease cycling.

IF ANY OF THE ABOVE CHECKS REVEAL DAMAGE OR MALFUNCTION, THE MACHINE SHOULD BE SHUT DOWN AND THE KEY REMOVED UNTIL THE FAULT IS REPAIRED.

PREVENTATIVE MAINTENANCE:

- a. Every 4 months of operation of the Pallet Breaker should be checked by a qualified person to ensure that all safety features are functioning correctly and are undamaged.
- b. From time to time, a qualified electrician should inspect all power leads and electrical contacts.

COMMISSIONING NEW AUTOBALER

This is the stage where a fully functional Autobaler is handed over for use by the end-users. At the conclusion of this commissioning, the installer must be satisfied that the Autobaler will perform as specified, and that the end-users are fully conversant with the operation and the safety guidelines.

A. Initially, the installer must be satisfied that:-

- The Autobaler is complete, as specified by the manufacturer
- The Autobaler is the specific model, as requested
- The power source is as specified
- All accessories and attachments are as requested
- All functions of the Autobaler operate correctly
- The motor rotates in a clockwise direction
- The hydraulic oil reservoir is full
- There are no hydraulic oil leaks
- There is no damage to any safety barriers
- There are no safety concerns regarding the location of the Autobaler
- A qualified electrician has checked the power source, lead and electrical contacts

B. The installer must now:-

- Ensure that one, or more, of the end-users are completely trained in the safe use of the Pallet Breaker
- Ensure that those trained are fully aware of safety procedures associated with the safe use of the Pallet Breaker
- carry out a full training session, incorporating these factors

C. At the completion of the training session, the installer must:-

- Complete the “Job Completion” form, detailing precisely what was delivered and accepted by the end-user
- Complete the “Training & Trainee Particulars” forms, detailing the names of those who attended the training session. These persons will be sent a certificate stating that they are competent to operate the particular Autobaler, as well as have the overall knowledge to train others in its operation

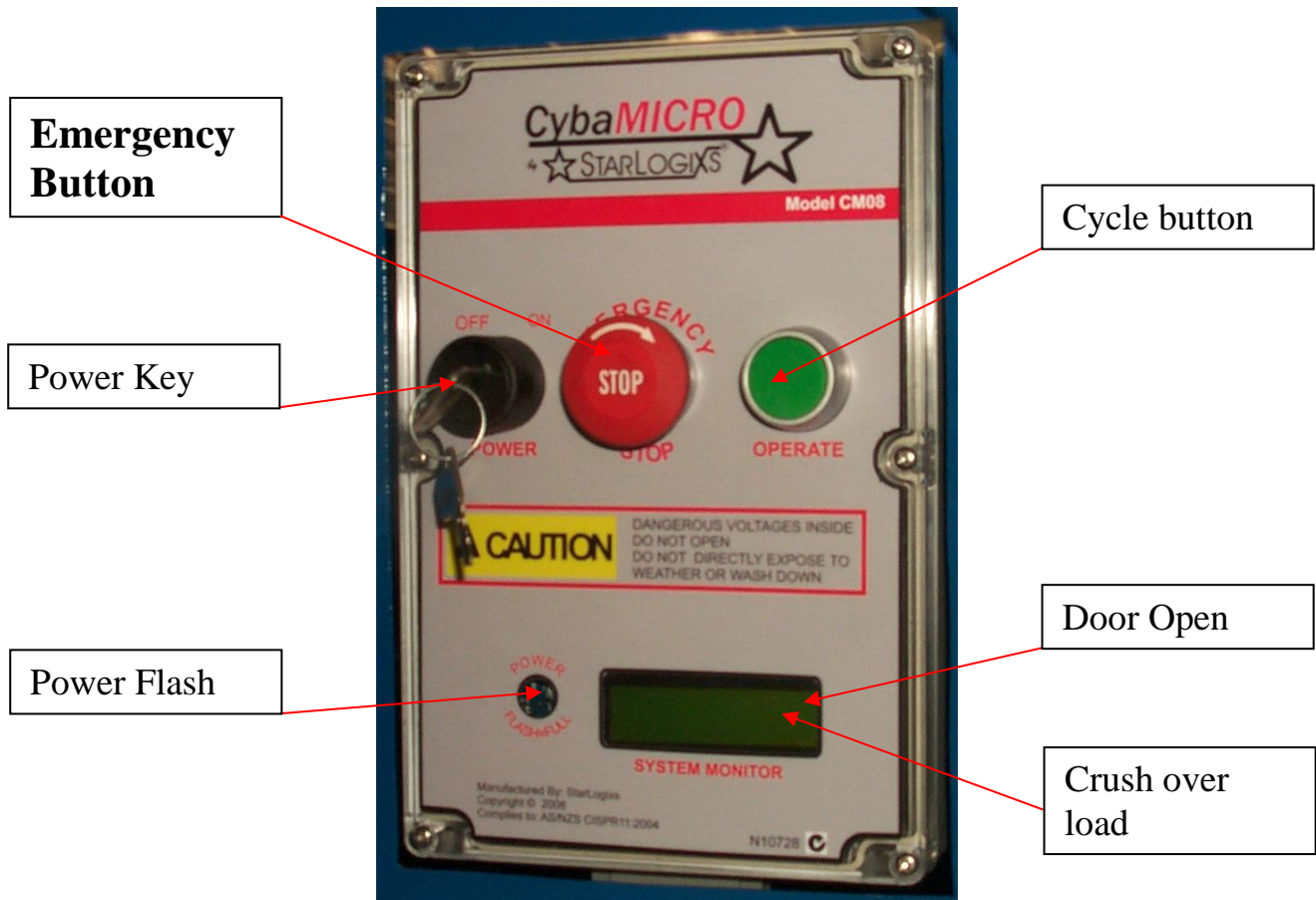
D. Training the end-users should be carried out as follows:-

- Ensure that the person who has ultimate responsibility for the operation of the Autobaler is amongst those to be trained initially i.e. Head Storeman or Cleaner.
- Carry out the training, using the end-users as much as possible, from the stage of inserting a pallet and removing chips
- At all stages of the training process, make sure that those being trained are fully aware of the safety aspects associated with the operation of the Autobaler.

E. Training is to be conducted as follows:-

- Closing of front doors and explaining of safety features i.e. Autobaler key, emergency stop button and door opening cut out
- Demonstration of operation of Autobaler with no material in crushing chamber
- Explanation of controller functions
- Explanation on why the door should never be opened during crushing process
- Opening of bottom door, with emphasis on possibility of rebound

Controller Operation



Starting the Crusher

- Insert the power plug into the wall socket and turn the power on
- Turn on the baler key and release the emergency stop button – the baler red power light should be illuminated
- Close loading door
- Activate cycle button, when the motor starts on cycle mode the crushing head will rotate. To change the motor direction the electricity supply polarity will require changing at the baler socket end or at the controller by swapping the back plug situated on right-hand side of the controller to the adjacent port.

Note; Do not run the motor in anti-clockwise direction or pump damage will occur.

Chapter 6

Crusher Operating Procedures

1. Fully open the chamber door. (Illustration 2)



Illustration 2



Illustration 3



Illustration 4

2. Situate pallet on opened door (See illustration 3)
3. As the door is closed the pallet drops into chamber (See illustration 4)
4. Fully close door ensuring both door latches are fully closed.

Note; Extra heavy duty pallets may require the bottom board on one side removed using board removing tool supplied.

Pallet Position; Always load the pallet into the machine with the main pallet bearers vertical (See illustration 3)

Chapter 7

Training Procedures

Safety Procedure for Training

1. Autobaler Location
2. No reaching into crushing chamber
3. Turn the baler off when unattended
4. Importance of reading and observing all safety instructions

Point out safety devices:-

- Emergency stop button
- Key switch

Machine operation

1. Plug Power lead into wall socket
2. Rotate key to activate control system
3. Ensure that loading door is closed
4. Release E-stop by rotating clockwise
5. When controller screen shows ready, activate green start button
6. To change system polarity interchange block plugs on controller sides (See illustration 5)
7. Machine will time out after 2.5 minutes



Illustration 5

Autobaler Trainee Particulars (Kit)

Company:

Address:

.....

.....

Trainee Name:

(Print Clearly in Capitals)

Autobaler Model Trained To Use:

I..... (Trainer) witnessed the competency
of In the safe competent use of the
Autobaler Model..... and I received a copy of the
Training Manual.

I hereby validate this assessment.

Signed (Trainer)

Date

Signed (Trainee)

Date

Special Comments

.....
.....
.....
.....

Autobaler Training Handout

Person in Training

Name:

Address:

.....

.....

Phone No:

Employer:

Date of Training:

Name of Trainer:

Autobaler Model Trained To Use:

1. If the crusher is in a public access area and the Crusher will be unattended for a long period, what precaution for public safety should you take:
 - a. Sit and watch the crusher ☐
 - b. Remove the key ☐
 - c. Do nothing ☐

2. What function does the green button have:
 - a. General operation ☐
 - b. Cycles the machine ☐

3. The purpose of the emergency stop button is:
 - a. Decoration ☐
 - b. For emergency stopping ☐
 - c. No particular use ☐

4. When loading a pallet for crushing where should the door be:
 - a. Right down ☐
 - b. Half way down ☐
 - c. Fully up ☐

5. If the crusher operates with the door open, I must:
 - a. Continue as normal ☐
 - b. Shut the machine off, remove the key and place an 'Out of Order' sign on it ☐
 - c. Take care ☐

6. During the crushing operation what precautions need to be taken:
 - a. None ☐
 - b. hands away from the inner chamber and pallet ect being crushed ☐

7. Heavy Duty pallets may require:

- a. lower board removed
- b. Nothing to be done
- c. Other

☐
☐
☐

8. When loading heavy pallets into chamber;

- a. Over the top with door closed
- b. Open door fully and situate on door with pallet bearers
vertical

☐
☐
☐

SAFETY ESSENTIALS

1. Before commencing the crushing process ensure that the door is latched securely on both sides.
2. Never reach in during operation as a pallet can be push hard against chamber wall injuring fingers. Keep hands out of chamber during operation.
3. When loading pallets always open the loading door.
4. Heavier pallets require two people or mechanical loading.
5. Remove key from baler if the baler is unattended in a public access area.
6. If there is a fault with the machine, it should be tagged out. Do not operate the machine. Contact 1800 888 403 for assistance.
7. Operators must be trained by authorised representatives of Trethewey Industries and carry their Statement of Attainment Card as evidence of qualification.
8. Correct clothing must be worn i.e. High visibility, gloves, safety boots, and safety glasses

CHAPTER 8

SETTINGS AND MAINTENANCE SECTION

**MAINTENANCE DESCRIBED IN THIS MANUAL IS ONLY TO BE
PERFORMED BY A TRETHEWEY INDUSTRIES
APPROVED AND QUALIFIED REPRESENTATIVE.**

Always disconnect Electrical Supply before carrying out any repairs or servicing to the machine

Maintenance Definition: - Scheduled periodic servicing.

Preventative Maintenance: - A service provided at four monthly intervals.

Average usage: - a machine working for less than 2- 3 hours a day.

High usage: - a machine working for more than 3 hrs daily.

Major Maintenance: - A serviced preformed every 12 months according to the standard servicing schedule. A major service has the additional service elements.

1. Hydraulic Systems check / Power screw check (Depends on model)
2. Hydraulic Cylinder balance check
3. Possible hydraulic filter replacement

Safety: - All service intervals to include a full safety check and report.

MACHINE CLEANING

To keep your crusher in top working condition, frequent cleaning is required.

POWER UNIT CLEANING

Never attempt to service the power unit without first thoroughly cleaning the unit.

- Note: Always disconnect the power socket from the power source plug before attempting any guard removal
- Remove the key from the controller and attach an 'in service' note to the baler
- Keeping the power unit clean will prevent overheating and system contamination

NOTE: - Power unit must be cleared of accumulated material pieces on a regular basis to prevent overheating.

CLEANING THE CRUSHER

To keep the crusher in good appearance, we recommend the use a soft cloth. Remove any contamination of the inner chamber wall using a damp cloth, use only mild detergents. **NOTE:** Never use petrol or mineral solvents to clean the machine as this may damage the paint.

GENERAL HOUSE KEEPING

Daily remove material build up around the crusher. A fines tray is inserted beneath the machine and collects fine materials that escape through the crushing system. Remove tray and clean as often as required.

SERVICING

Service Period

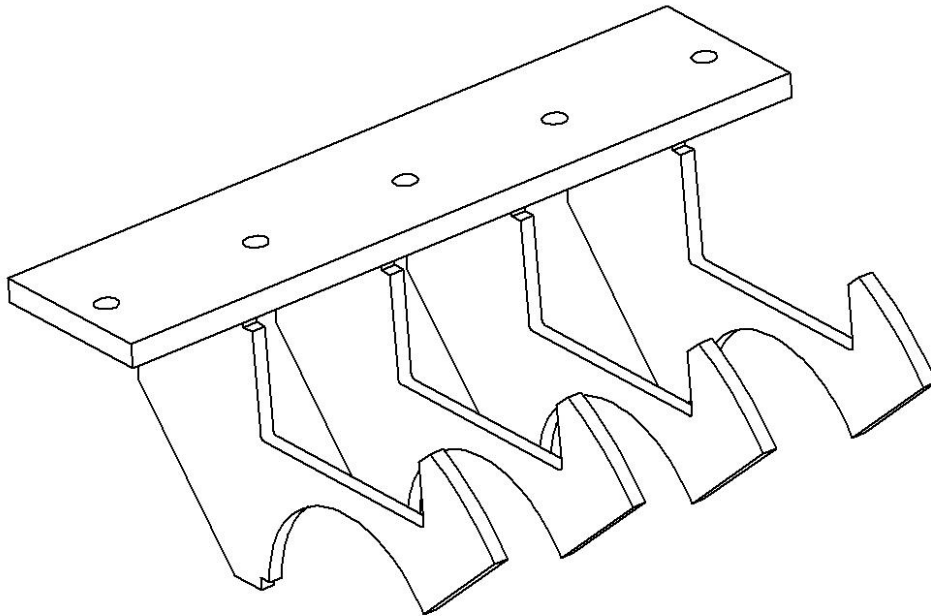
Every 3 months to 4 months depending on the crusher classification
(AVERAGE USAGE = Up to 3 hrs per day)
(HIGH USAGE = More than 3 hrs per day)

M/M = Major Maintenance every 12 months

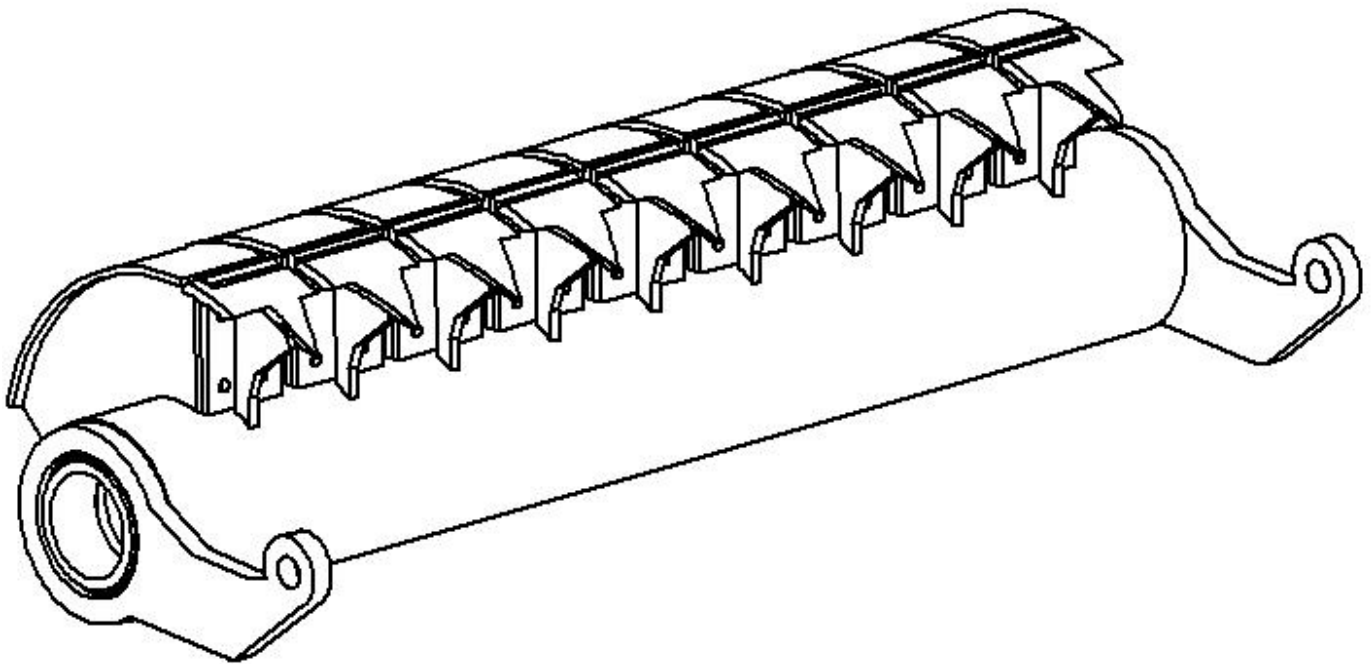
Major Maintenance

1. Replacing the Oil Filter
2. Replace damaged hoses
3. Full Lubrication Guide
4. Door Adjustment Check
5. Safety Check List
6. Service Guide
7. Service of cutting heads

Replaceable Components



- 2 Sets bolt on breaking bars



- 9 bolt on cutting heads

SERVICING HYDRAULICS

It is recommended that the oil is tested annually to check for the following: - oil contamination

- Oil damage from overheating
- Water ingressions from high pressure cleaning

The hydraulic system requires a filter change every third service – (Oil filter models only).

The filter is situated on the hydraulic tank which is situated at the rear of the crusher
(Oil filter models only)

Filter Changing Procedure:-

- Remove the three small studs on the tank, these are located on the top of the unit (see illustration1)
- Lift filter out of the unit (Note: the unit does not require removal from the tank)
- Replace the new filter taking care with the re-assembly making sure that the filter is the correct way up (see illustration 2)
- Ensure no contamination occurs, clean well before disassembly and re-assembly
- Tighten the filter unit lid down evenly
- Run the machine and check for oil leaks



Illustration: 1



Illustration: 2

FULL LUBRICATION GUIDE



Lightly grease both latches

Grease door hinge brushes

Grease barrel pivot brushes

MBL spray internally to reduce meatal contact squeal

Fines material tray

RECOMMENDED LUBRICANTS

Only lubricants recommended by the manufacturer are to be used in the Autobaler. Failure to use the recommended lubricants will result in voidance of the baler warranty. Autobalers have high pressure pivot points and therefore must only be lubricated with high pressure long life lubricants.

HYDRAULIC OIL	:	CASTROL HYPIN 32 GRADE
GREASE	:	MBL 8
SPRAY LUBRICANT	:	PBL 3 SPRAY LUBE

For further details and possible supply of the recommended lubricants, Please phone:-

TOLL FREE : **1800 888 403** **OR** **02 67 345 403**

6. SAFETY CHECK LIST

TAKEN	GOOD	POOR	ACTION
1. Check top door operation, door must not open more than 30mm without activating safety switch, adjust if required			
2. Check emergency switch			
3. Check key operation			
4. Check power leads for damage, placement etc			
5. Check crusher situation, ensure it is a safe and approved location			
6. Check door catches for positive lock			
7. Check all guarding, report, refit or correct if required			
8. Report unsafe operator practices			
9. Report other areas of safety concern			
10. Check safety signage is in good order			

Electrics

- Check wiring for damaged or loose unsaddled wiring. ☐
- Check power plug and point ☐
- Check electronics generally report or repair damaged or dangerous situations. ☐

Comments.....

.....

.....

.....

Controller

- Check controller for correct function ☐
- Check for & report damage ☐
- Check all fittings to the controller for firm positive connection ☐
- check controller anchor screws ☐

Comments.....

.....

.....

Structural

- Thoroughly check for cracks or failed welds or any signs of fatigue or structural damage report
- Check all bolts.
- Check cylinder anchor lugs for fatigue

☐
☐
☐

Comments.....
.....
.....

Door

- Check latch is functioning correctly
- Adjust and lubricate latch
- Lubricate hinges
- Check top door limit switch is functioning correctly
- Check coded switch that they enter centrally
- Difficult to close, lubricate – check for wear

☐
☐
☐
☐
☐
☐

Comments.....
.....
.....

Guarding

- Check that guards are secure and free of damage, repair or report

☐

Comments.....
.....
.....

Signage

- Report missing safety signage
- Report damage signage

☐
☐

Comments.....
.....
.....

CHAPTER 9

MAINTENANCE INSTRUCTIONS

This should include safe working procedures for carrying out all preventative maintenance and repairs. This should also include any special tool requirements for maintenance.

1. Servicing Procedure
2. Personal Safety Gear Required
3. Before Commencing a Service
4. Lubricants, Tools and Spares Required

SERVICING PROCEDURE

Before attending a service site, the following may be required:

- (1) Source from the Crusher owner or operators the following-
 - a. when the internal services are due
 - b. date and time suitable to carry out the service
 - c. an accurate location of the machine
 - d. whether site induction and training is required to enter the site
 - e. what type of clothing and footwear are required
 - f. machine type and serial number
 - g. does the crusher require attention i.e. repair / adjustment etc over and above a regular interval service, so that likely parts required can be taken
- (2) Personal Protective Equipment required -
 - a. a high visibility shirt or vest
 - b. regulation safety glasses
 - c. regulation footwear
 - d. hearing protection
 - e. hand cleaner
 - f. towel roll
- (3) Before commencing the service
 - a. isolate the power source from the machine
 - b. clean the area to be working in
 - c. remove the baler key and place an "out of service" sign if required
 - d. remove the guards relevant to a service

LUBRICANTS REQUIRED TO SERVICE AUTOBALERS

1. Tube of PBL (Pro-ma) long life grease
2. PBL or similar spray lubricant
3. 32 grade hydraulic oil, Note: a minimum of 4 litres is required for top up purposes in a regular service. Sufficient oil should be carried for maintenance which requires an oil change. For a complete oil change, the following amounts are required: 36 litres

A container or containers will be required to deposit the used baler oil. In the likely event of an oil spill, carry a sufficient amount of oil absorbent substance to ensure that the floor area is completely oil free on completion of the job. Used oil must be disposed of via an oil recycler or in a legal manner.

TOOLS REQUIRED FOR A PREVENTATIVE MAINTENANCE

1. Cartridge type grease gun
2. Oil pump
3. Oil funnel
4. KZD needle nose coupler

CHAPTER 10

MAINTENANCE INTERVALS AND LUBRICANTS

- (1) Service Intervals
- (2) Recommended Lubricants
- (3) Material Safety Data Sheet for Lubricants

SERVICE INTERVALS

- Autobalers require regular maintenance intervals to ensure that they perform and operate safely, reliably and efficiently.
- Autobalers must be serviced by qualified service people who have been instructed in the service of Autobalers
- Autobalers must be serviced according to the service requirements as laid out in the maintenance manual supplied with each Autobaler.
- It is a requirement that when an Autobaler has an interval service that the appropriate service leaf be dated and filled out according to the service and signed by the service technician.
- It is recommended that a service interval not exceed 4 months or every 500 bales. Autobalers must be serviced within this period during the warranty period.
- An integral component of the service is a comprehensive safety check to ensure interlocks and all other safety devices and guards are in good safe working order.

RECOMMENDED LUBRICANTS

- Recommended hydraulic oil AWH 32 Castrol
- Autobalers have high pressure pivot points which require high pressure grease, therefore it is recommended that only Pro-ma MBL grease be used in the service of Autobalers or grease with equivalent lubrication properties (see data sheet). If maintenance periods are exceeded or lubricants used which are outside the manufacturers recommendations, Autobaler warranty may be voided.

DATA SHEET, PRO-MA MBL 8 GREASE

Benefits of Use

- Performs within high and low temperature operating ranges
- Resists water and water washout
- Provides oxidation stability
- Protects against rust
- Protects against extreme pressure
- Works well with high loading or severe shock loading
- Extends lubrication periods
- Prevents excessive seal swelling

The Base Grease Used in MBL Grease has the Following Specifications

NLGI Grade.....	2
Soap Type.....	Lithium-Complex
Texture.....	Buttery

Base oil viscosity

CST at 40°C.....	148
CST at 100°C.....	14
SUS at 100°F.....	767
SUS at 210°F.....	75
Base oil viscosity index.....	90
Dropping point C (F) (ASTM D 2265).....	280° + C (500° + F)

Penetration, mm/10 (ASTM D 217)

Unworked	280
Worked 60 Strokes	285
Worked 100,000 strokes, % change.....	+ 10

Trident probe viscosity (ASTM D 3232)

204°C (400°F), poises.....	15
----------------------------	----

Oil Separation (ASTM D 1742)

24 hr at 25°C (77°F), %.....	3
------------------------------	---

Lubrication life (ASTM D 3336), no.204 bearing

10,000 rpm, 163°C (325°F), hrs.....	290
-------------------------------------	-----

Oxidation stability (ASTM D 942)

Pressure drop at 100hr, kPa (psi).....	14 (2)
Pressure drop at 500hr, kPa (psi).....	70 (10)
Roll stability (ASTM D 1831) % penetration change.....	+ 10

Wheel bearing test (ASTM D 1263 modified: 60-9 pack 160°C (325°F)

Leakage, g.....	1.5
-----------------	-----

Load carrying properties:

Timken load (ASTM D 2509,kg (lb)).....	25 (55)
--	---------

4-Ball EP test (ASTM D 2596)

Load wear Index, kg.....	40
Weld point, kg.....	250

4-Ball wear test (ASTM D 2266), 40 kg 1200rpm,

75°C (167°F), 1 hr. Wear scar diameter, mm.....	0.40
---	------

Ball-joint test (ASTM D 3428)

Brine sensitivity (noise and wear).....	Pass
Torque stability.....	Pass
Water washout (ASTM D 1264), % at 80°C (175°F).....	4
Rust prevention (ASTM D 1743), ASTM rating.....	1

Low temperature torque (ASTM D 1478), -40°C (-40°F) Starting,
G-cm.....13, 000 Running,
G-cm.....5, 000

Mobility (U.S. Steel method)

Flow rate at -18°C (0°F), g/sec.....0.5

Rubbers swell (GM method) 70hr at 100°C (210°F)

Volume change, %.....+ 12

Handling

Product contains petroleum oil, copper and lead particles, **Do NOT store near heat, sparks or flame.** Wash with soap and water after contact with skin. KEEP OUT OF REACH OF CHILDREN. A material Safety Sheet is available from Pro-Ma Systems.

Warning

Do NOT take internally. **Harmful or fatal if swallowed.** Contains copper and lead particles and hydrocarbons. If swallowed contact a doctor immediately. Wash hands after use.

Medical advice

Contains petroleum oil, copper and lead particles. **If swallowed, do NOT induce vomiting.** Call physician immediately.

Available Sizes

450g, 2.5kg, 20kg, 60kg, and 202.5kg.

Material Safety Data Sheet

Product Name: **SUPERDRAULIC RANGE**

Date Issued: 3 June 1997

Page : 1

IDENTIFICATION

Use: General purpose hydraulic oil.

Not classified as hazardous according to criteria of Worksafe Australia.

Company: WESTERN OIL
1 COOMBES DR PENRITH

UN No. : **Not Assigned**
Main Class : **Not Assigned**
Subsidiary Risk : **Not Assigned**
Poisons Schedule : **Not Allocated**
Hazchem Code : **Not Assigned**
CASE No. : **Not Relevant**

PRODUCT PROPERTIES

Appearance & Odour: **Clear and bright oily liquid. Mineral oil odour.**

Chemical Reactivity: **Stable. Reacts with oxidising agents.**

Solubility in Water: **Negligible**

Property	Value	UOM	Temp
Specific Gravity	0.87	-	15
Melting Point	Not Available		
Vapour Pressure	Expect<0. 0005	kPa	20
IBP	Typically 280	deg C	
FEP	Not Available		
Evaporation Rate	Not Available		
Vap Dens (Air=1)			>1 -

Fire/Explosion Hazard		
Flash Point	Typically>224	deg C
Autoignition	Typically>320	deg C
% Volatiles	Not Available	
LEL	Expected 1	%v/v
UEL	Typically 10	%v/v

PRODUCT INGREDIENTS

Ingredient	Proportion	Blending Method	CAS No.
Highly refined mineral oil	High >99.4%	m/m	
Complex mixture of additives	Low < 0.6%	m/m	

Material Safety Data Sheet

Product Name: ***SUPERDRAULIC RANGE***

Page : 2

Date Issued: 3 June 1997

HEALTH HAZARDS

HEALTH EFFECTS

Acute

Swallowed

Slightly toxic, may cause gastric irritation

Eye

Product may cause slight to moderate irritation to the eyes.

Skin

Mildly irritating to skin. Prolonged and repeated skin contact may cause dermatitis due to defatting effect.

Inhaled

Inhalation of the vapours (generated at elevated temperatures) or mists can cause irritation to the nose and throat.

Material Safety Data Sheet

Product Name: ***SUPERDRAULIC RANGE***

Page:

4

Date Issued: 3 June 1997

FIRST AID

Swallowed

If swallowed, do NOT induce vomiting, seek medical advice.

Eye

If contact is made with eyes, flood eyes with plenty of water for 20 minutes. If irritation occurs seek medical advice.

Skin

Remove contaminated clothing and wash skin thoroughly with soap and water.

Inhaled

Remove affected person from contaminated area and seek medical advice.

If not breathing, apply artificial respiration and seek urgent medical advice.

Advice to Doctor

PRECAUTIONS FOR USE

Exposure Standards

Worksafe Exposure Standard: - time weighted average (TWA) 5 mg/m³ (oil mist) short term exposure limit (STEL) 10mg/m³ (oil mist)

Material Safety Data Sheet

Product Name: *SUPERDRAULIC RANGE*

Date Issued: 3 June 1997

Page : 3

Engineering Controls

Special ventilation is not normally required due to the low volatility of the product at normal temperatures. However, in the operation of certain equipment or at elevated temperatures, mists or vapour may be generated and exhaust ventilation should be provided to maintain airborne concentration levels below the exposure standard or where no exposure standard is allocated, as low as is reasonably practicable.

Personal Protection

Avoid contact with the skin and eyes, and avoid breathing vapours or mists. When exposure is likely, personal protective equipment in a combination appropriate to the degree and nature of exposure, should be selected from the following list:-

- (1) Eye protection
- (2) PVC gloves
- (3) PVC apron and sleeves, or full PVC covering
- (4) PVC or rubber boots

Where the concentration of vapour or mist is expected to approach the exposure limit, the following additional equipment is recommended:-

- (1) Short elevated exposures, eg spillage - goggles and correct respiratory protection should be worn.
NB. If the vapour/mist concentrations exceed the exposure limit by more than 10 times, air supplied apparatus should be used.
- (2) For prolonged elevated exposures - Full face air supplied or self contained breathing apparatus should be worn.

CONTAMINATION

If contamination occurs, change clothing and discard internally contaminated gloves and footwear. Launder contaminated clothing before reuse.

Observe good personal hygiene.

Eye wash fountains and safety showers should be available for emergency use.

Material Safety Data Sheet

Product Name: *SUPERDRAULIC RANGE*

Date Issued: 3 June 1997

Page : 5

Personal Protection (-. continued)

REFERENCES

For detailed advice on Personal Protective equipment, refer to the following Australian Standards

HB 9 (Handbook 9)	Manual of industrial personal protection.
AS 1337	Eye protectors for industrial applications.
AS 1715	Selection, use and maintenance of respiratory protective devices.
AS 1716	Respiratory protective devices.

Flammability

Combustible liquid, will not burn unless preheated

Refer to AS 1940 - Storage and handling of flammable and combustible liquids and AS 2865 - Safe working in a confined space, for more specific information on these subjects.

SAFE HANDLING INFORMATION

Storage & Transport

Classified as a class C2 combustible liquid for storage and handling purposes. Store in a well ventilated place away from ignition sources, oxidizing agents foodstuffs and clothing. Keep containers closed when not in use.

Spills & Disposal

Extinguish or remove all sources of ignition and stop leak if safe to do so. Contain the spill with sand or earth and take up with a vacuum truck or absorb with absorbent material, sand or earth. Place used absorbent materials in suitable sealed containers and follow state or local authority regulations and guidelines for disposal of the waste. Clean area with detergent and water. Do not allow product to enter drains, sewers or water courses, inform the local authorities if this occurs.

Fire/Explosion Hazard

Combustible: Combustion products include oxides of carbon. Keep storage tanks, pipelines, fire exposed surfaces etc cool with water spray. Shut off any leak if safe to do so and remove sources of re-ignition. Use foam, CO2 or powder to extinguish fire.

OTHER INFORMATION

Long term animal experiments have shown that any health risks are associated with the level of aromatic and polycyclic constituents in the product. These constituents are removed during the manufacturing process to a level at which no health risks are expected as a result of normal handling.

CONTACT POINT

Emergency Response: - 02 4732 3305

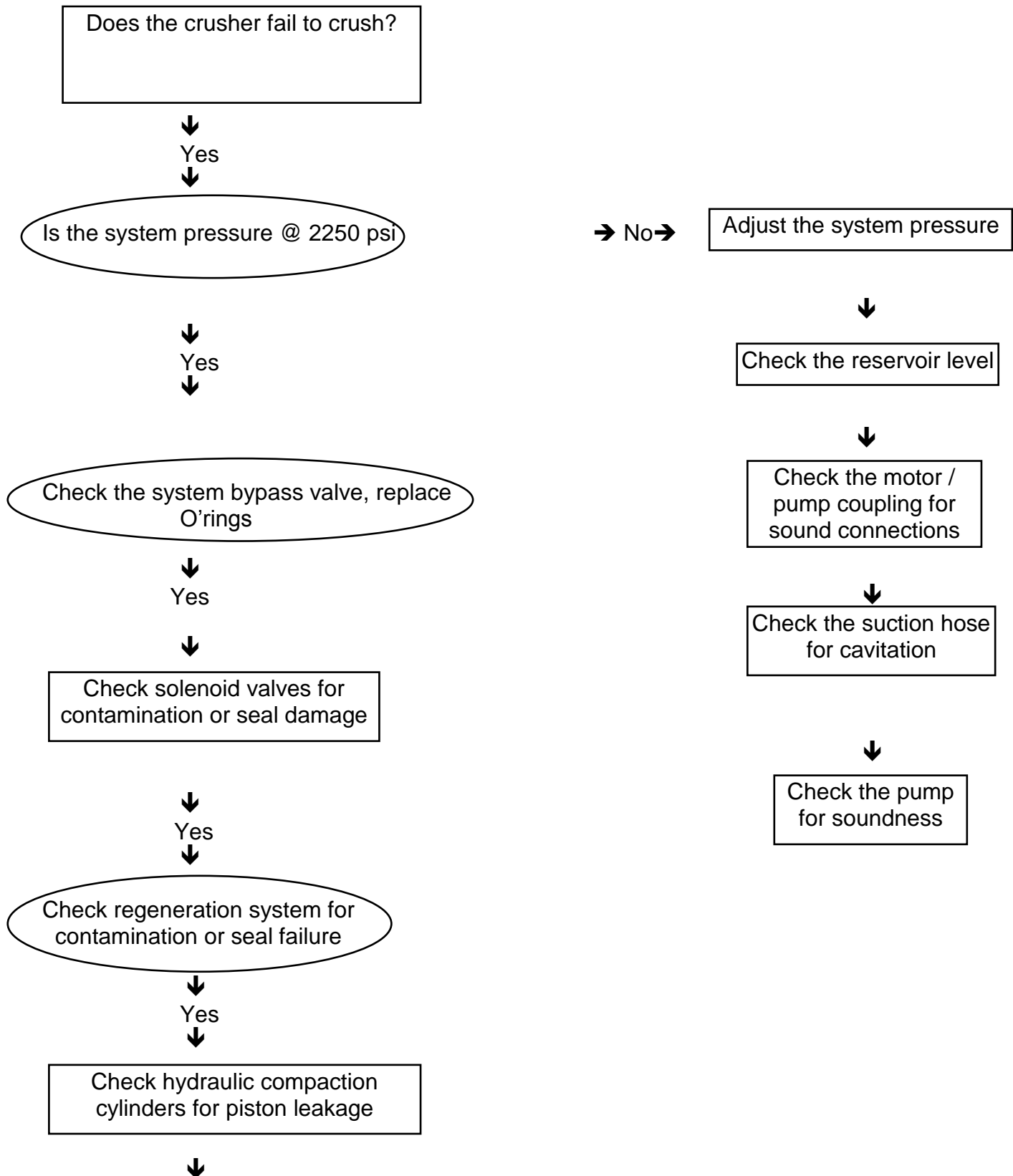
*** END ***

CHAPTER 11

FLOW CHART INDEX

- (1) Crusher Electric / Electronic Operation
- (2) Crusher Vibration fault
- (3) Low Pressure Hydraulic Fault
- (4) Door Closing Fault

TROUBLE SHOOTING, HYDRAULIC FAULT - LOW PRESSURE



Call Service Hotline: 1800 888 403

CHAPTER 12

Components	Part No.
Power pack unit tank	PB 1001
Electric motor	PB 1002
Bell housing	PB 1003
Pump	PB 1004
Pump coupling	PB 1005
Coupling spider	PB 1006
Coupling motor key	PB 1007
Coupling pump key	PB 1008
Coupling grub screws	PB 1009
Main valve block	PB 1010
Main solenoid unit	PB 1011
Solenoid coils	PB 1012
Solenoid coil caps	PB 1013
Bypass valve unit	PB 1015
Test port unit	PB 1014
Pressure switch unit	PB 1016
Dip stick	PB 1017
Filter unit	PB 1018
Filter cartridge	PB 1019
Filter fitting in	PB 1020
Filter fitting out	PB 1021
Power pack acorn nuts	PB 1024
Motor fastening studs	PB 1025
Hydraulic hose bottom left	PB 1026
Hydraulic hose bottom right	PB 1027
Isolating switch	PB 1028
Control to is cable	PB 1034
Main cable	PB 1035
4 pin plug	PB 1036
Electrical fittings	PB 1037
Hydraulic cylinders	PB 1038
Hydraulic cylinder fittings	PB 1039
Main pivot brushes	PB 1040
Main 2" axel	PB 1041
Cutting heads	PB 1042
Breaker bar assembly	PB 1043
Cutting head bolts	PB 1044
Breaker bar bolts	PB 1045
Door latches	PB 1046
Limit switches (roller)	PB 1047
Limit switch (lever)	PB 1048