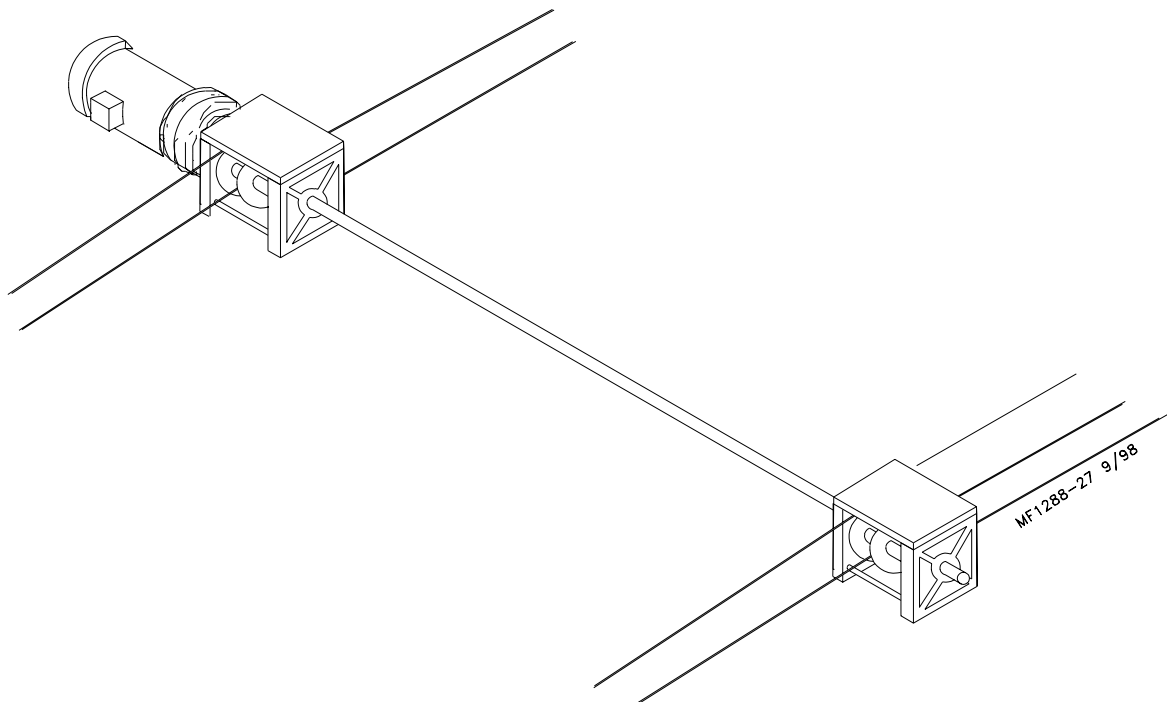


MULTI-LIFT® Winch System

Installation & Operator's Instruction Manual



The Chore-Time Warranty

Chore-Time Equipment ("Chore-Time") warrants each new Chore-Time product manufactured by it to be free from defects in material or workmanship for one year from and after the date of initial installation by or for the original purchaser. If such a defect is found by the Manufacturer to exist within the one-year period, the Manufacturer will, at its option, (a) repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement. Labor costs associated with the replacement or repair of the product are not covered by the Manufacturer.

Conditions and Limitations

1. The product must be installed by and operated in accordance with the instructions published by the **Manufacturer or Warranty will be void.**
2. Warranty is void if **all components** of the system are not original equipment supplied by the **Manufacturer.**
3. This product must be purchased from and installed by an authorized distributor or certified representative thereof or the Warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under the Warranty.
5. This Warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

The **Manufacturer** shall not be liable for any **Consequential or Special Damage** which any purchaser may suffer or claim to suffer as a result of any defect in the product. "**Consequential**" or "**Special Damages**" as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.

THIS WARRANTY CONSTITUTES THE MANUFACTURER'S ENTIRE AND SOLE WARRANTY AND THIS MANUFACTURER EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Chore-Time Distributors are not authorized to modify or extend the terms and conditions of this Warranty in any manner or to offer or grant any other warranties for Chore-Time products in addition to those terms expressly stated above. An officer of CTB, Inc. must authorize any exceptions to this Warranty in writing. The Manufacturer reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

Effective: **April 2003**

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Thank You

The employees of Chore-Time Equipment would like to thank your for your recent Chore-Time purchase. If a problem should arise, your Chore-Time distributor can supply the necessary information to help you.

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Safety Information

Caution, Warning and Danger Decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety signs.

Using the equipment for purposes other than specified in this manual may cause personal injury and or damage to the equipment.

Safety–Alert Symbol

This is a safety–alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury. This equipment is designed to be installed and operated as safely as possible...however, hazards do exist.



Signal Words

Signal words are used in conjunction with the safety–alert symbol to identify the severity of the warning.

DANGERindicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



DANGER

WARNINGindicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



WARNING

CAUTIONindicates a hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.



CAUTION

DANGER: Electrical Hazard

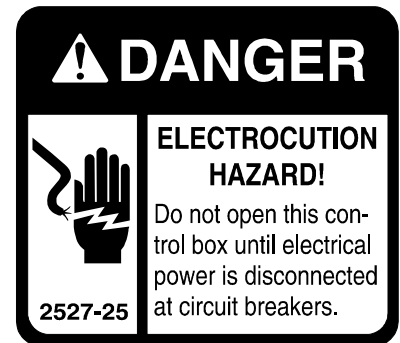
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

Ground all non-current carrying metal parts to guard against electrical shock.

With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.



Support Information

The Chore-Time MULTI-LIFT® Winch System is designed to raise and lower feeder and waterer lines. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury.

This manual is designed to provide comprehensive planning, installation, operation, and parts listing information. The Table of Contents provides a convenient overview of the information in this manual. The Table of Contents also specifies which pages contain information for the sales personnel, installer, and consumer (end user).

Capacities and Specifications

The MULTI-LIFT Winch System consist of a Drive Unit, and in some installations, a Remote Drum.

The MULTI-LIFT Winch may be used as a stand-alone winch to raise and lower a single line of feeders or waterers (i.e. Male Feeders, etc.).

The MULTI-LIFT Winch and the Remote Drum may be used together to raise and lower multiple lines of feeders or waterers (i.e. ULTRAFLO or ULTRAPAN loops, etc.).

The MULTI-LIFT Winch is designed for center mount applications only. Do not use as an end mount winch.

The maximum weight capacity of the MULTI-LIFT Winch is 3,000 pounds (1,361 kg). Use the chart, below, to estimate the weight of your system. The winch speed is approximately 5 feet (1.5 m) per minute.

	Model C, C2, & H2	Model ATF
Tube, Auger, Feed, & Pan	5.0 lb./ft. (7.5 kg./m)	7.0 lb./ft. (10.5 kg./m)
Power Units	35 lbs. (15.88 kg)	35 lbs. (15.88 kg)
100# Hopper	140 lbs. (63.50 kg.)	----
200# Hopper	250 lbs. (113.4 kg.)	250 lbs. (113.4 kg.)
300# Hopper	360 lbs. (163.30 kg.)	360 lbs. (163.30 kg.)

Chore-Time recommends using 3/16" (5 mm) 7x19 wire rope with a 4,200 pound (1905 kg) minimum break strength as the main winch cable.

The Motor used to drive the winch is a 3/4 H.P., 220 V., 50/60 Hz., single phase motor.

Planning the MULTI-LIFT Winch Installation

Carefully plan the system prior to beginning the installation process. This will save you time and effort.

The Feeding System Installation Manual, supplied with your feeding system, includes the installation instructions for the suspension system. The Feeding System Installation Manual may be used in conjunction with MULTI-LIFT Winch System Installation Manual.

Note: Install the MULTI-LIFT Winch, as specified in this instruction, in place of the Power Winch shown in the Feeding System Installation Manual.

Refer to the MULTI-LIFT Winch System Overview diagram on page 7.

MULTI-LIFT Winch System Overview

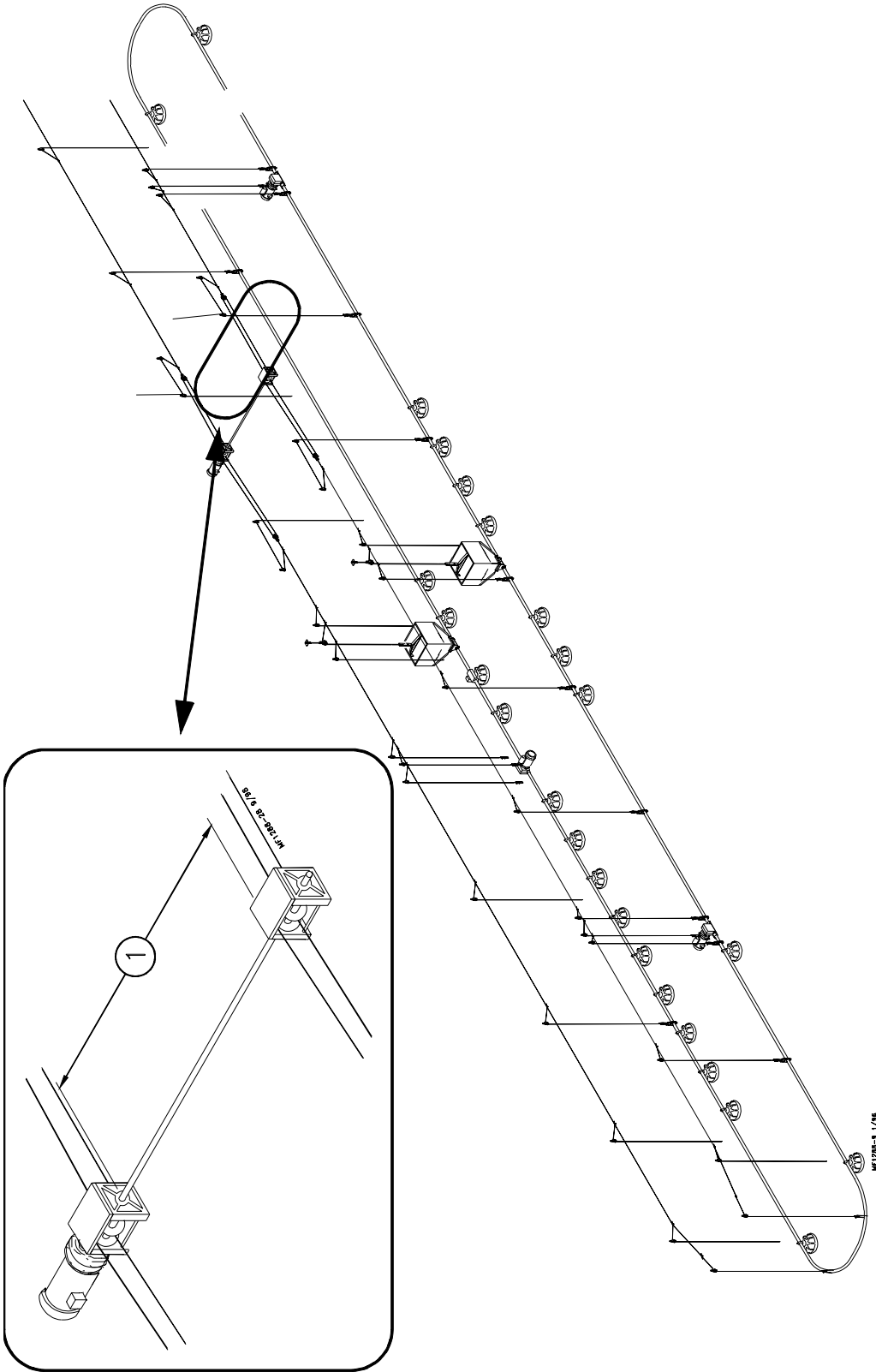


Figure 1. System Overview Diagram

Item	Description
1	20 ft max (6 m)

MULT-LIFT Winch Installation

Position the Winch on the mounting board.

Mark the (4) holes in the Base of the Winch. Drill the holes for the 3/8" hardware.

Secure the Winch to the 2" x 10" (50 x 250 mm), using (4) 3/8-16 x 2-1/2" Grade 5 hex bolts, flat washers and hex nuts. Be sure to install (1) Cable Hook on each side of the Winch, using the 2-1/2" bolt as shown in **Figure 2**.

Locate the mounting board and Winch so that the Winch Drum is directly in line with the feeder/waterer line to be raised. The Winch should be positioned in the center of the house, if possible.

Secure a 2" x 10" (50 x 250 mm) board to the ceiling at the winch location, using lag screws (not supplied). The mounting board should span at least 3 trusses.

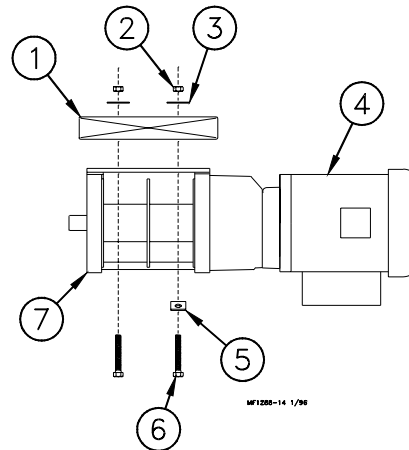


Figure 2. Winch Installation (side view)

Item	Description
1	2" x 10" (50 x 250 mm) Mounting Board
2	3/8" Patch Lock Nut
3	3/8" Flat Washer
4	Winch Motor
5	Cable Hook
6	3/8-16 x 2-1/2" Hex Bolt
7	Winch Drum

If a Remote Drum is to be used, install it similar to the Winch specified above.

Connect the Winch to the Remote Drum, using a 1" (25 mm), schedule 40 steel pipe (not supplied), as shown in **Figure 2**. Be sure to install (1) Cable Hook on each side of the Remote Drum, using the 2-1/2" bolt as shown in **Figure 3**.

Additional Remote Drums may be attached together to raise/lower several lines at once.

Note: Make sure the total load on the system is within the recommended load specification. See Page 6.

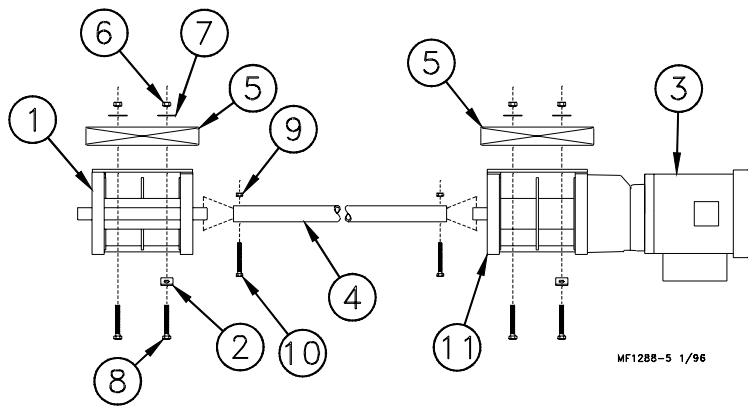


Figure 3. Remote Drum Installation (side view)

Item	Description
1	Remote Drum
2	Cable Hook
3	Winch Motor
4	1" Pipe (not supplied)
5	2" x 10" (50 x 250 mm) Mounting Board
6	3/8" Patch Lock Nut
7	3/8" Flat Washer
8	3/8-16 x 2-1/2" Hex Bolt
9	5/16-18 Patch Lock Nut
10	5/16-18 x 2-1/2" Hex Bolt
11	Winch Drum

Wiring Information

Note: Remove and discard the chain connecting Switch 1 & 2 together on the Limit Switch Assembly.

Remove the (2) bolts securing the Pipe Clamp Bracket and Clamp Strap from the bottom of the Limit Switch Assembly. Slide the Switches off the 2" PVC Tube. To rearrange: refer to the order specified in **Part No. 29820-3** (Tower Switch Layout) on page 15. Remove and discard Items 6, 10, 13 and 14. Refer also to **Figure 12** in the Wiring diagrams on page 13.

Wire the MULTI-LIFT® Winch and Winch Control as specified in the diagrams starting on page 17 in this manual.

Important: The Winch Drum, when the "UP" pushbutton is pressed, should rotate in the direction indicated on the side of the Winch.
See Figure 4.

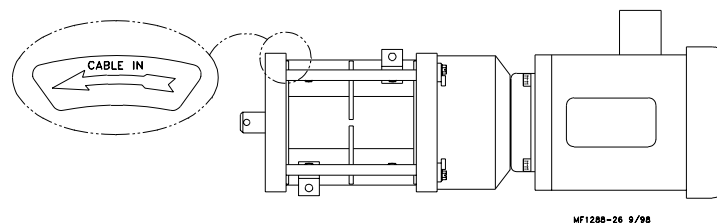


Figure 4. Winch Drum rotation decal location (top view)

Cable Routing

Extend the main cable the full length of the feeder/waterer line. Temporarily attach the cable to the ceiling with nails, staples, or some type of fastener. Refer to the Feeder Installation Manual for additional cable installation information.

Route the cable through the notch in the center divider of the winch drum, as shown in **Figure 5**.

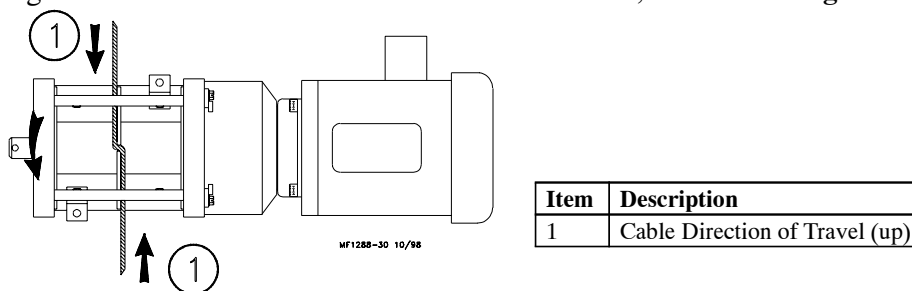


Figure 5. Cable routing through Winch Drum (bottom view when mounted on ceiling)

Wrap the cable around the drum five complete wraps, as shown in **Figure 6**, by hand.

Make sure the cable does not wrap on top of itself.

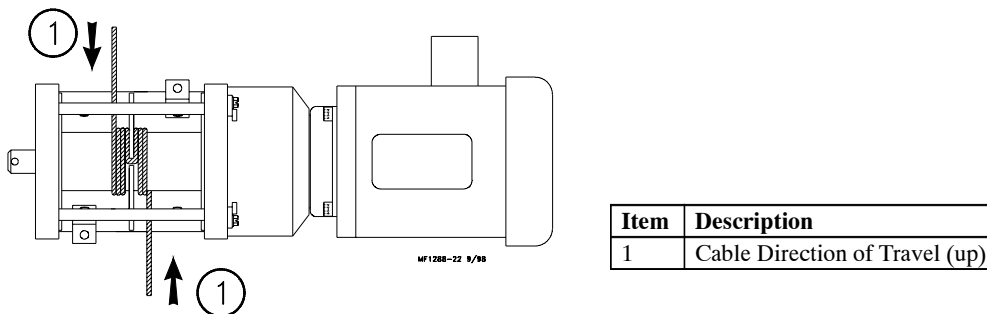


Figure 6. Cable wrap on the Winch Drum (bottom view when mounted on ceiling)

Lines over 300' (91 m) require using a double-back cable arrangement, as shown in **Figure 7**.

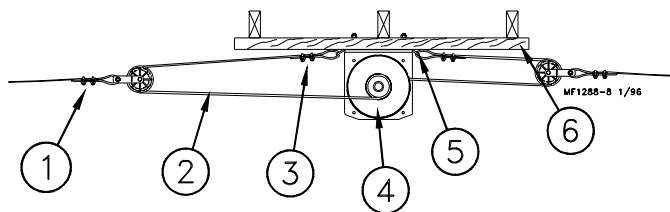


Figure 7. Double-back cable arrangement on the Winch Drum (end view)

Item	Description
1	Use (2) clamps to secure the main cable.
2	Winch Cable
3	Use (2) clamps to secure the winch cable to the Cable Hook.
4	Winch
5	Cable Hook
6	2" x 10" Mounting Board

If a Remote Drum is used, route the cable as specified above. Make sure the cable arrangement is the same for Drive Unit Winch Drum and the Remote Drum. See **Figure 8**.

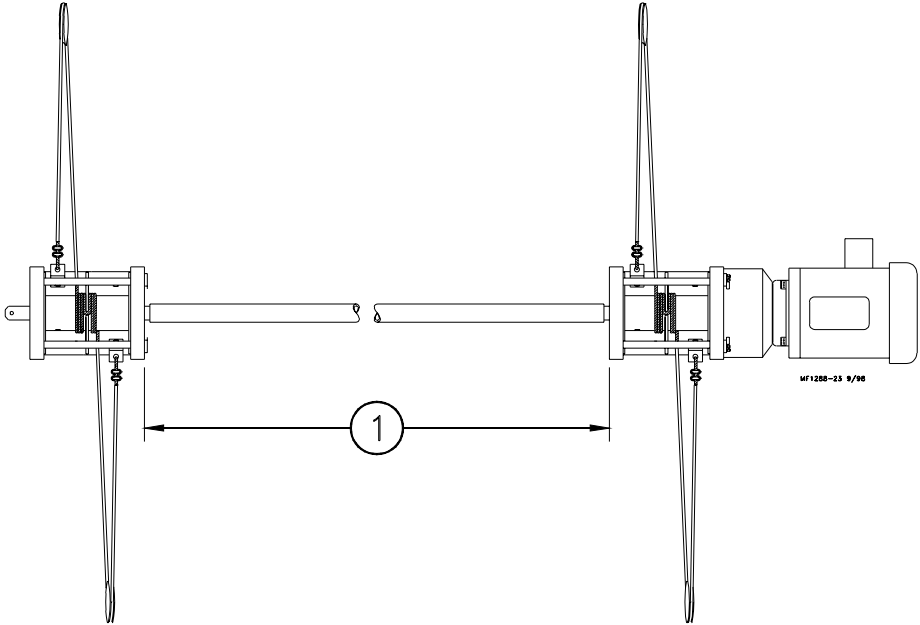
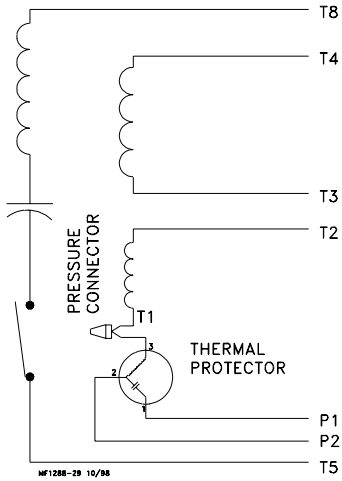


Figure 8. Drive Unit and Remote Drum cable routing (side view)

Item	Description
1	20 ft. maximum (6 m)

MULTI-LIFT Winch Motor Internal Wiring



- Note:
1. For “up” operation, facing motor fan, motor turns ccw. From motor-gearbox end, drum turns ccw.
 2. Motor rotation direction changed by reversing wires T5 and T8.
 3. Wire identification number is printed on lead wires in motor conduit box.

Figure 9. Motor Internal Wiring

MULTI-LIFT Winch System Wiring Diagrams

When used with Part No. 14613 Manual Winch Control

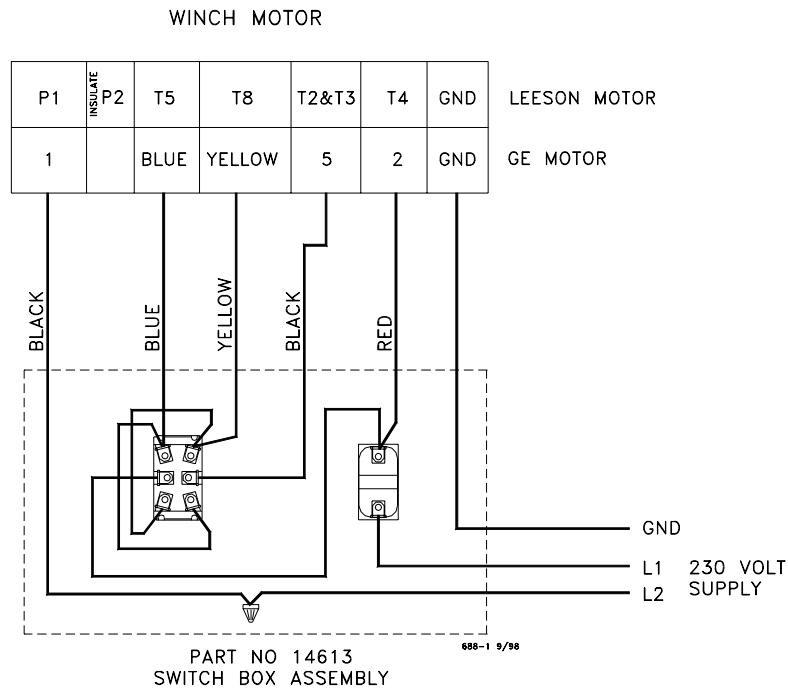


Figure 10. System Wiring Diagram
37215 MILTI-LIFT Winch with Manual Winch Control 14613
or
14560 or 14580 Electric Power Lift with Manual Winch Control 14613

When used with Part No. 14613 Manual Winch Control and Motor Starter (not supplied)

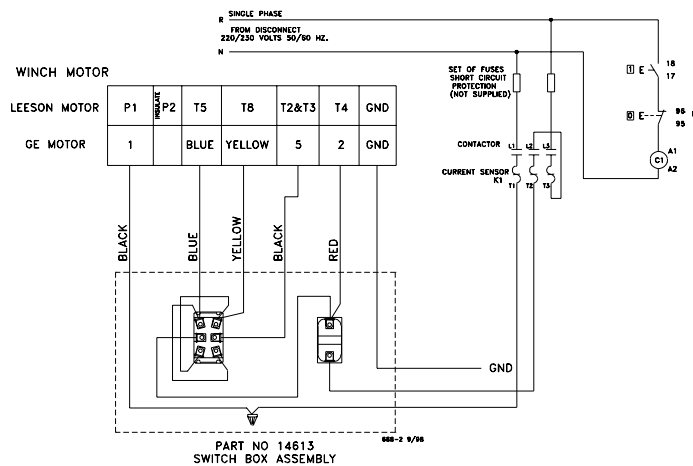


Figure 11. System Wiring Diagram
37215 MILTI-LIFT Winch with Manual Winch Control 14613 and Motor Starter
or
14560 or 14580 Electric Power Lift with Manual Winch Control 14613 and Motor Starter

When used with Part No's. 34812 and 29829-3 Winch Controls:

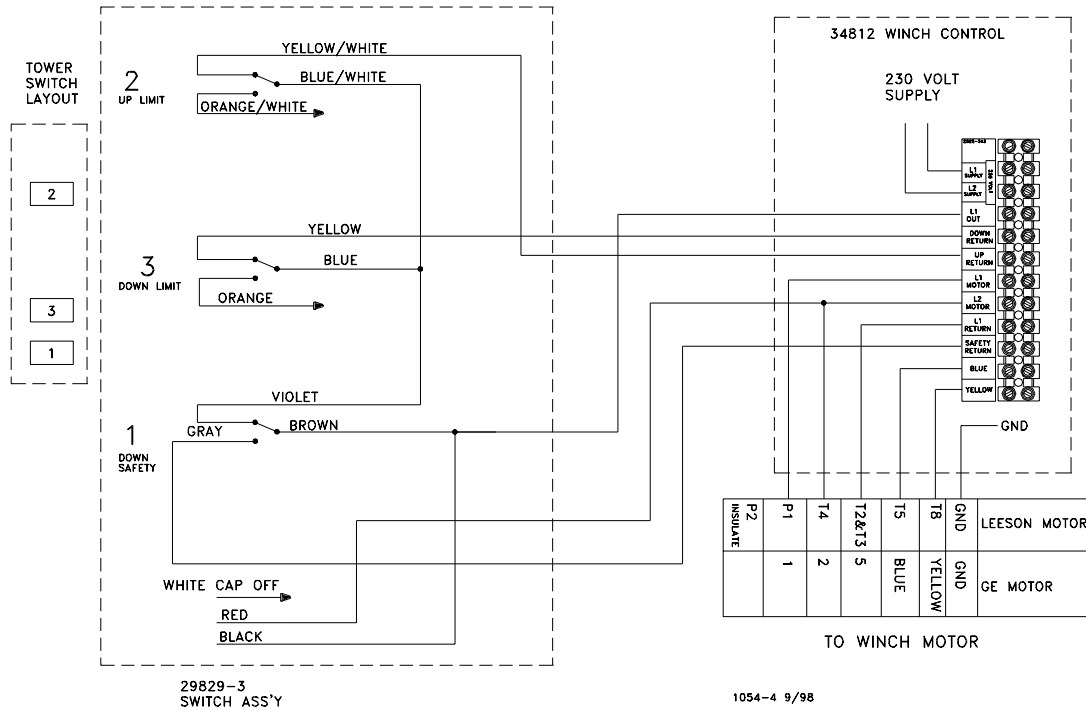


Figure 12. System Wiring Diagram
37215 MILTI-LIFT Winch with 34812 Manual Winch Control and 29829-3 Tower Limit Switch
or
14560 or 14580 Electric Power Lift with 34812 Manual Winch Control and 29829-3 Tower Limit Switch

When used with Part No. 34812 Winch Controls and 39464 Limit Switch:

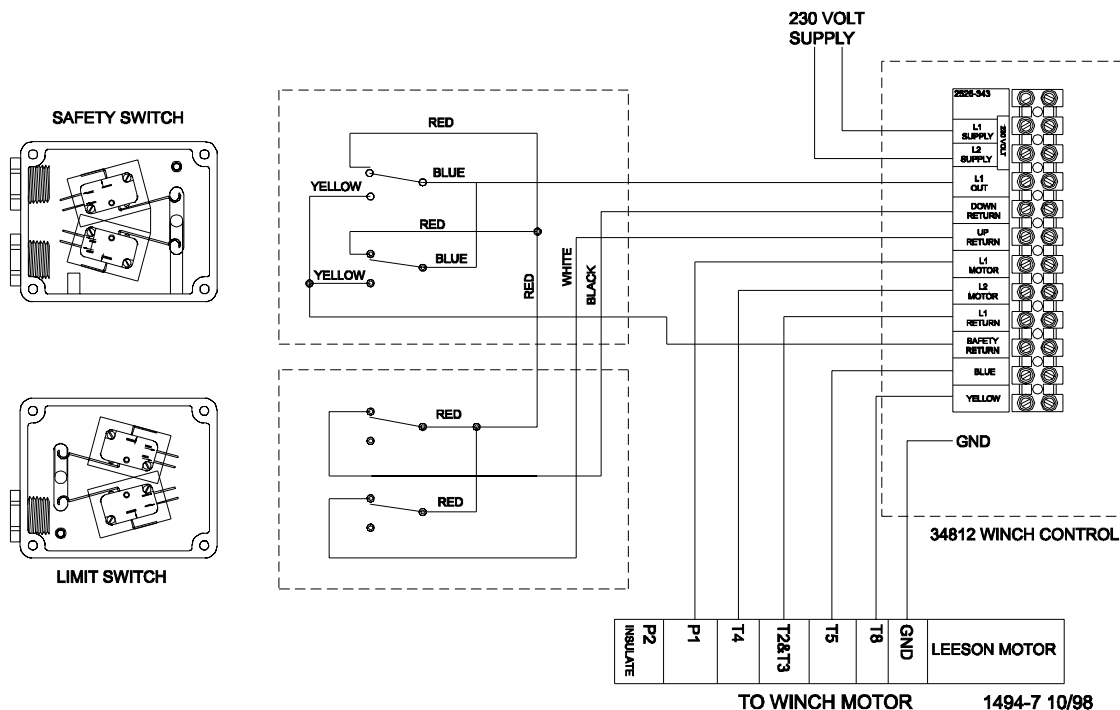
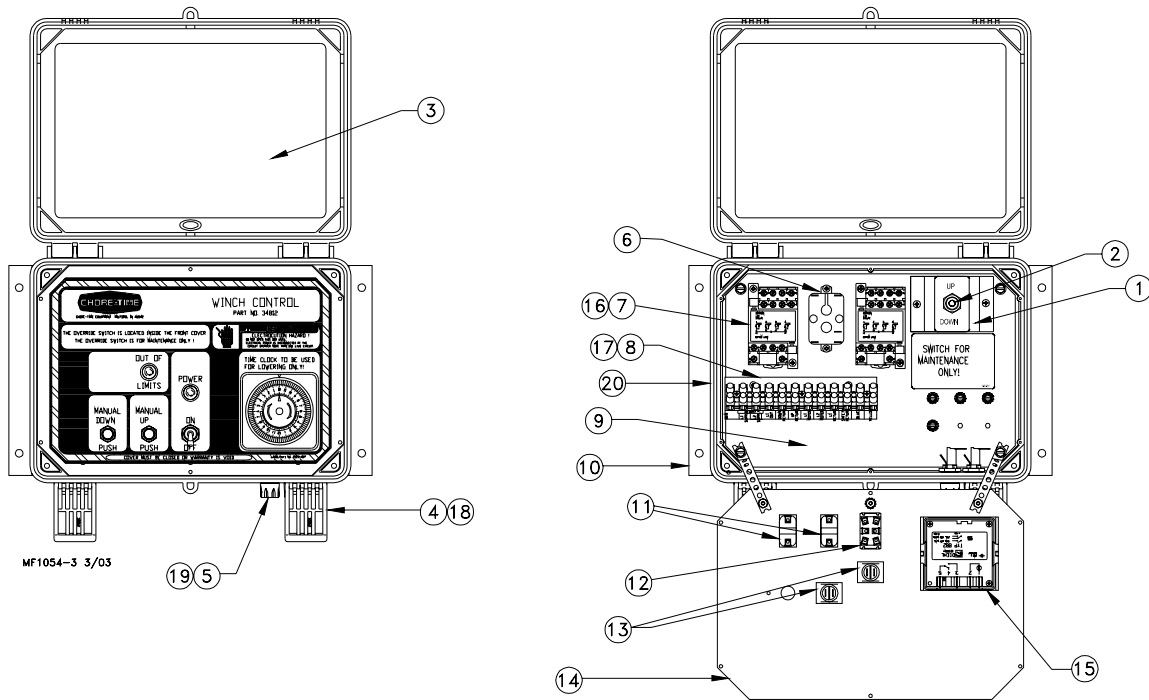


Figure 13. System Wiring Diagram
37215 MILTI-LIFT Winch with 34812 Manual Winch Control and 39464 Tower Limit Switch

Winch Control

Part No. 34812

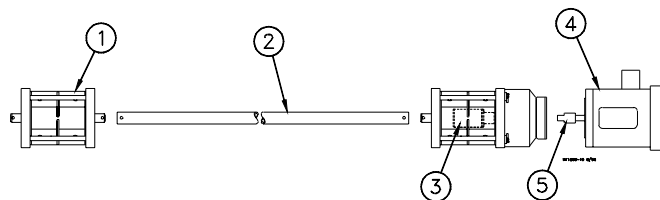


Item	Description	Part No.
1	Switch Bracket	46846
2	Toggle Switch (DPDT)	46847
3	Clear Lid	30859
4	Control Box Latch	30862
5	Fuse Holder	24431
6	Relay	5574
7	4 PDT Relay (230 V)	34910
8	Terminal Mount Bracket	34563
9	Back Mount	34383
10	Control Box Mount Panel	34852

Item	Description	Part No.
11	Momentary Switch	5785
12	Toggle Switch	6014
13	Pilot Light	7044
14	Winch Control Panel	34382
15	Time Clock	34912
16	Track Mounting Socket	34909
17	Terminal Strip	34925
18	Control Box Latch Pivot	30863
19	10 Amp Fuse	7350
20	Control Box	34985

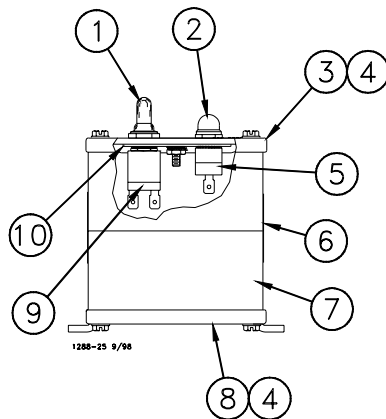
Winch Components

Item	Description	Part No.
1	Remote Winch Drum	37216
2	1" Connecting Pipe	----
3	Brake Assembly Brake Pad	38377 38378
4	Motor	37380
5	Pinion	38379
--	Winch Drum & Motor	
--	Winch Drive Unit	37215



Switch Box Assembly

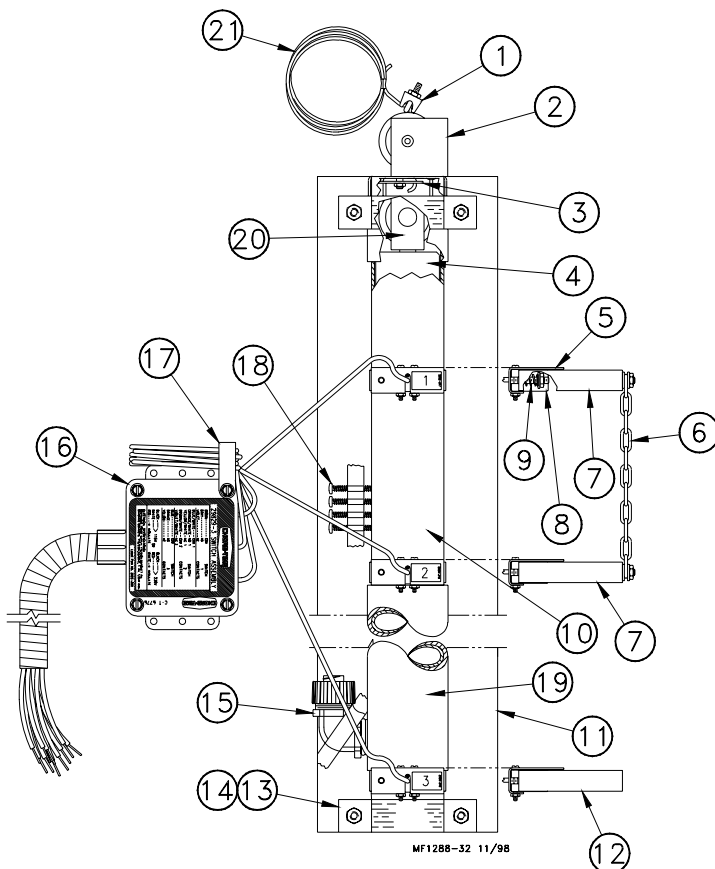
Part No. 14613



Item	Description	Part No.
1	Toggle Switch Boot	20784
2	Push Button Boot	1739
3	Machined Cover	40904
4	Gasket	6777
5	Momentary Switch	5785
6	Danger Decal	2527-25
7	Electrical Box	40916
8	Mounting Cover	6956
9	Toggle Switch	20135
10	Grounding Plate	40903

Limit Switch Assembly

Part No. 29820-3



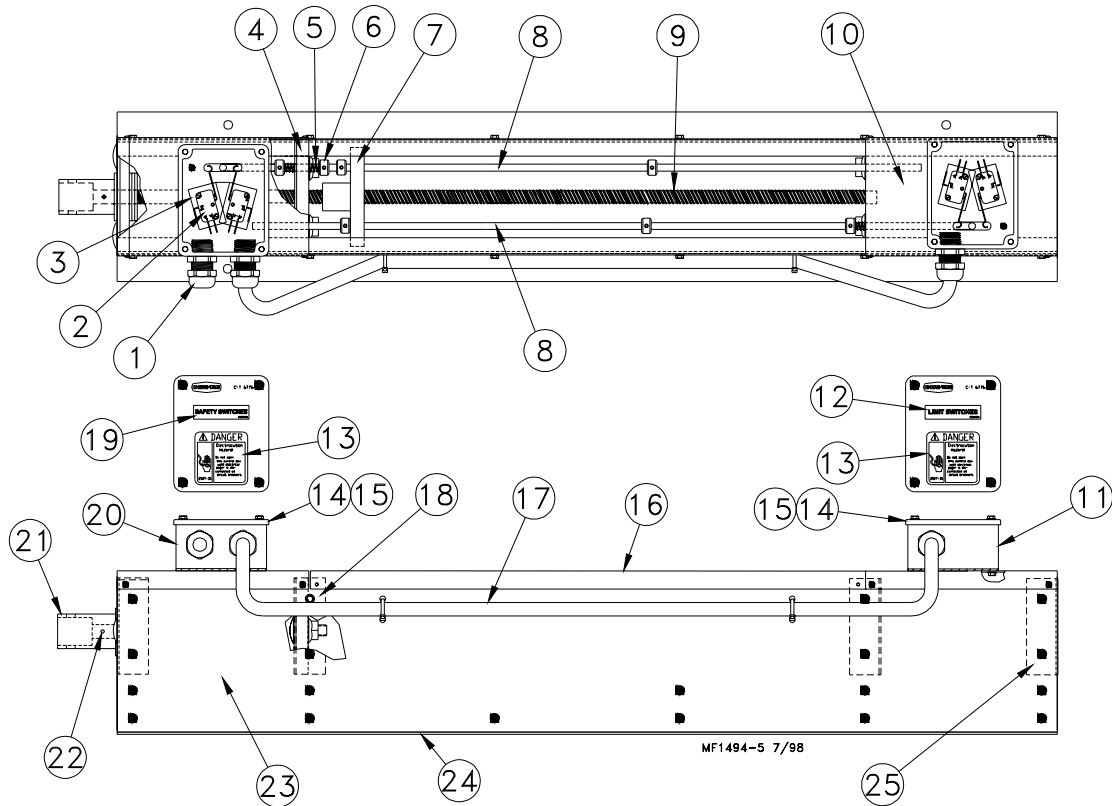
Item	Description	Part No.
1	Cable Clamp	14898
2	Outer Pulley Assembly	29821
3	Cable Clamp Plate	29822
4	Weight	29825
5	Switch Mount	29828
6*	Chain	30129
7	Switch Strap	36893
8	Switch (Replacement)	30110
9	Spring	7132
10*	2" PVC Tube	29827
11	Support Plank	29826
12	Switch Strap	36892
13	Pipe Clamp Bracket	29830
14	Pipe Clamp Strap	29831
15	1/2" 90° Fitting	24726
16	Switch Assembly	29829-3
17	Cord Clip	21233
18	#8 x 3" S.S. Screw	30133
19*	1" Tube Spacer	30131
20	Inner Pulley Assembly	29824
21	3/32-7 x 19 S. S. Cable	28377
--	1/2" PVC Conduit Fitting	7830

* Remove and discard

The 29820-3 Limit Switch Assembly and 34812 Winch Control may be ordered as a kit under Chore-Time Part No. 34913.

Limit Switch Assembly

Part No. 39464



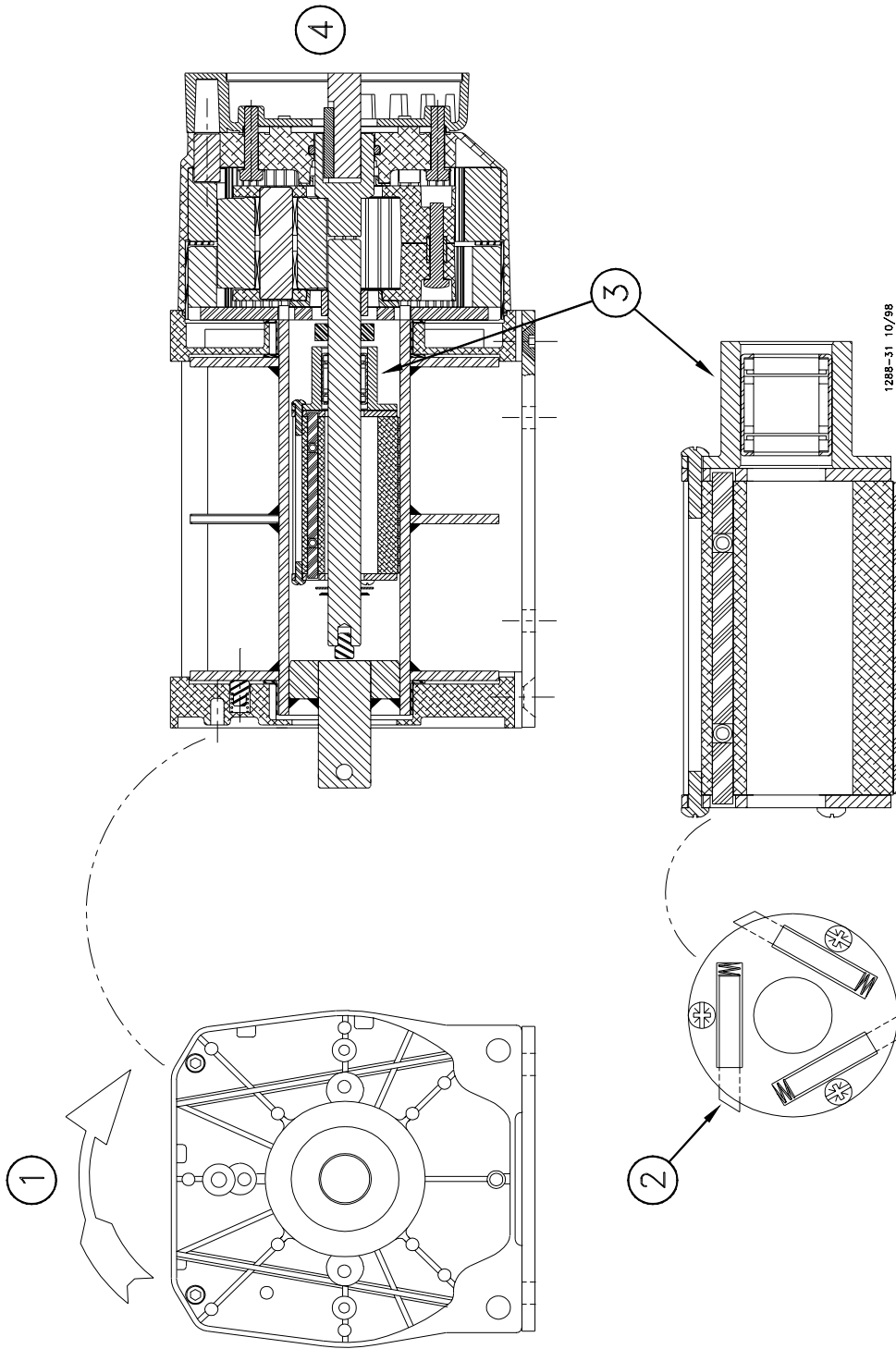
Item	Description	Part No.
1	Liquid Tight Connector	23779
2	Micro Switch	6049
3	Switch Insulation	1907-8
4	Drive Gear Bearing	39463
5	Compression Spring	7132
6	Set Collar	36438
7	Traveling Block	39457
8	Switch Rod	39574
9	Drive Screw	39462
10	Switch Mounting Panel	39458
11	Terminal Box	36334-3
12	Limit Switch Decal	2529-632
13	Danger Decal	2527-35

Item	Description	Part No.
14	Switch Box Cover	6776
15	Gasket	6777
16	Limit Switch Cover	39590
17	Cord Assembly	4999-98
18	Bearing Retainer	39461
19	Safety Switch Decal	2529-631
20	Terminal Box	36334
21	Connector Adaptor	39459
22	Spiral Pin	2960-3
23	Side Panel	39456
24	Base Mount	39455
25	End Panel	39460

Trouble Shooting Guide

Symptom	Possible Cause	Corrective Action
Winch will not operate.	<ol style="list-style-type: none"> 1. No power. 2. Thermal overload tripped. 3. Faulty wiring or connections. 4. Damaged or faulty motor. 	<ol style="list-style-type: none"> 1. Check branch circuit. 2. Press motor reset button. 3. Check wiring. 4. Replace motor.
Thermal overload continually trips.	<ol style="list-style-type: none"> 1. Winch overloaded. 2. Damaged or faulty motor. 	<ol style="list-style-type: none"> 1. Use pulley block or reduce load. 2. Replace motor.
Winch runs backwards.	<ol style="list-style-type: none"> 1. Incorrect wiring. 	<ol style="list-style-type: none"> 1. Refer to wiring diagrams supplied.
Winch will not reverse.	<ol style="list-style-type: none"> 1. Motor not stopped before reversing. 2. Incorrect wiring. 3. Damaged motor. 	<ol style="list-style-type: none"> 1. Allow motor to stop before reversing. 2. Check wiring. 3. Replace motor.
Branch circuit breaker continually trips.	<ol style="list-style-type: none"> 1. Electrical short. 2. Damaged motor. 	<ol style="list-style-type: none"> 1. Check wiring. 2. Replace motor
Wire rope spooling unevenly.	<ol style="list-style-type: none"> 1. Insufficient tension on wire rope. 2. Pulling at an angle. 	<ol style="list-style-type: none"> 1. Rewind rope under small load. 2. Align winch for straighter pull.
Winch does not pull rated load.	<ol style="list-style-type: none"> 1. Too much wire rope on drum. 2. Damaged or faulty motor. 	<ol style="list-style-type: none"> 1. Reduce amount of rope on drum. 2. Replace motor.
Drum does not turn, motor hums.	<ol style="list-style-type: none"> 1. Excessive load. 2. Incorrect wiring. 3. Damaged or faulty motor. 	<ol style="list-style-type: none"> 1. Use pulley block or reduce load. 2. Check wiring. 3. Replace motor.

Brake Assembly Installation



Item	Description
1	Drum Rotation direction (up) for raising the Feeder Pans
2	Angle on Brake Pads (as shown)
3	Clutch MUST face toward the Gearhead (as shown)
4	Motor location



Made to work.

Built to last.

Contact your nearby Chore-Time distributor or representative for additional parts and information.

**CTB Inc.
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