

**Rixen Seilbahnen**  
**“Cable Water Ski”**  
**Non-Kiddie**

CABLE WATER SKI

TECHNICAL

OPERATIONS AND PROCEDURES

MANUAL

CARNY TOWN.COM

CABLE WATER SKI  
TECHNICAL  
OPERATIONS AND PROCEDURES MANUAL  
TABLE OF CONTENTS

	<u>PAGE</u>
<u>1.0 CONTROL AND MAINTENCE WORK</u>	
1.1 Daily or 10 operating hours	1
1.2 Weekly or every 80 hours	2
1.3 Monthly or every 300 hours	2
1.4 Quarterly or every 1000 hours	3
1.5 Six monthly or every 2000 hours	4
1.6 Off Season	5
1.7 Maintenance Chart and Notes	6,7
<u>2.0 INSPECTION AND INSTALLATION INSTRUCTIONS</u>	
2.1 Main Cable	8
2.2 Balance of Main Cables	9
2.3 Balance of Lift Cables	11
2.4 Pulleys	11
2.5 Pulley at Counter Weight Pylon/Pulley Adjustment	12
2.6 Pulley at Boom-Tower/Pulley Adjustment	12
2.7 Pulley at Motor Tower/Adjustment	12
2.8 Pulley Lining Change/Procedure	13
2.9 Lift Pulleys/Adjustments	13
2.10 Carriers/Installation and Adjustments	14
2.11 Adjusting the Cheesehead Screw	14
2.12 Lift Carriers/Installation and Adjustments	15
2.13 Fork, Fork Stops/Installation and Adjustments	15

<u>TABLE OF CONTENTS - continued</u>	<u>PAGE</u>
<u>2.0 INSPECTION AND INSTALLATION INSTRUCTIONS - continued</u>	
2.14 Release Track/Installation and Adjustments	16
2.15 Magazine/Installation and Adjustments	17
2.16 Brake/Adjustments	17
2.17 Power Drive and Variable Speed Unit	18
<u>3.0 MALFUNCTIONS</u>	
3.1 Main Cable/Pulley	19
3.2 Carriers	20
3.3 Lift Carriers	21
3.4 Fork and Release Track	22
3.5 Magazine/lift	23
<u>4.0 SPARE PARTS LIST AND IDENTIFICATION SHEET</u>	25

# CABLE WATER SKI

1.

1.0

## CONTROL AND MAINTENANCE WORK

Shown below are the control and maintenance checks that must be carried out on a regular basis. Note that it is critical for the smooth running and reliability of your Cable Ski Equipment that these checks be followed to the letter.

	<u>Go to</u>
	<u>Page</u>
1.1 <u>Daily or 10 operating hours</u>	
- Check vertical position of carriers (torque tool: 3kpm)	14
- Check dia-cables (tension) and pins	14
- Check function of : Carrier snappers	14
Fork	15
Fork-snapper	15
Fork / security shutter	15
Fork / locking spring	15
Loading bar	17
Magazine snapper	17
Lift carrier/release lever	15
Lift carrier/snappers (lubricate)	15
d. - Adjust rope length (distance from float to metal pipe approx 40cm)	
e. - Grease release track	24
f. - Oil loading bar and magazine clicker	
g. - Check all joining clamps for breakage	
h. - Oil tabs on cut-off switch bar	
i. - Nightly after use, check cable for breakage.	

CABLE WATER SKI

1.0 CONTROL AND MAINTENANCE WORK - continued

	<u>Go to</u>
1.2 <u>Weekly or every 80 hours</u>	<u>Page</u>
a. - Check pulley adjustment (flag test)	11
b. - Balance of new set of cables (up to 200hrs)	9
c. - Check function of: Fork	15
	Fork stops 15
	Loading bar 17
	(adjustment of operators cable)
	Condition of ball-ropes (bending, wire failures)
	Concussion turn off 17,18
	Emergency Switch
d. - Check counter weight and access cable (no tension on safety cable)	
e. - Grease all points on motor tower	24
f. - Check operating cable for wear and breakage, mainly at thimble and around nylon pulleys.	
g. - Release point on track (clearance of ball ropes)	14

1.3 Monthly or every 300 hours

- a. - Balance of cables. Shorten the main cables if 9  
the distance between the top of the pylon, (at counter weight tower) and main running cable pulley is less than 15m (only necessary with new cable)

## CABLE WATER SKI

3.

### 1.0 CONTROL AND MAINTENANCE WORK - continued

#### 1.3 Monthly or every 300 hours - continued

	<u>Go to</u>
	<u>Page</u>
b. - Check release energy of carriers with dyno (150kp/1500 N) or with release tool (7kpm)	
c. - Adjust brake for lining wear and abrasion	17
d. - Check wear of: Swivel joints	
Fork pipe	
Fork bolt	
Release levers (carrier)	14
Cheesehead screw	14
Position of ball rope in carriers	17
Main cable, lift cable and Operator-cables	11
Lift-belt, main V Belt	18
e. - Grease pulleys at towers other than motor tower	24
f. - Position of pick-up fork to be checked	15
g. - Check release energy of lift carriers(15-20kp)	15
h. - Check eye bolt, where support cable attaches to start place.	

#### 1.4 Quarterly or every 1000 hours

a. - Lubricate all swivel points on carriers, oil cable at clamp sites, also take shims from caps if required	14
---	----

1.0

CONTROL AND MAINTENANCE WORK - continued

	<u>Go to</u>
	<u>Page</u>
1.4 <u>Quarterly or every 1000 hours - continued</u>	
b. - Check main running cables have the right distance between them, and move carriers 12cm along cable.	9
c. - Examine magazine positioning	17
d. - Check wear in fork pin, replace if necessary	
e. - Oil or lubricate main running cables	
1.5 <u>Six monthly or every 2000 hours</u>	
a. - Check wear on carrier and release levers, remove if worn and rebuild, use high tensile welding rods	
b. - Check tension of all nuts holding pulley axles.	
c. - Check all support cables to masts, cable connections, mast connections and shackle tension	
d. - Pulley inserts should be checked carefully, motor tower inserts will probably need to be changed	13
e. - Check tension clamps for stretching, replace if worn	
f. - Check fork tube brushes for wear and replace if necessary	
g. - Shorten cables at all wedge clamps by 16cm	9

1.0 CONTROL AND MAINTENANCE WORK - continued

1.6 Off Season

- Grease all gliding parts
- Spread V Belt pulleys to relieve belt (screw M12 x 100mm)
- Cover motor frame with plastic but not air tight
- Keep towers and support cables clear from ice
- Relieve main cable (let down to approx 3m over water)

IMPORTANT

IF SAND IS PRESENT AT YOUR CABLEWAY, PUT A MATT DOWN ON THE BOOM TO WIPE YOUR FEET BEFORE MOVING TO THE MOTOR TOWER, SAND IS VERY ABRASIVE AND WILL CAUSE GREAT DAMAGE TO THE MOTOR TOWER. BEWARE OF IT.

MAINTENANCE CHART

	DAILY (10hrs)	WEEKLY (80hrs)	MONTHLY (300hrs)	QUARTERLY (100hrs)	HALF YEARLY (2000hrs)
MONDAY	SECTION 1.1, a-i	SECTION 1.2, a, d, f			
TUESDAY	SECTION 1.1, a-i		SECTION 1.3, e, h (day)	SECTION 1.4, b (day)	SECTION 1.5, b DO AT T SAME TIME AS SECTION 1.3, e
WEDNESDAY	SECTION 1.1, a-i		SECTION 1.3, c, d, g (day)	SECTION 1.4, e (day)	SECTION 1.5, d
THURSDAY	SECTION 1.1, a-i	SECTION 1.2, c, e			
FRIDAY	SECTION 1.1, a-i	SECTION 1.2, g			
SATURDAY	SECTION 1.1, a-i			SECTION 1.4, c, d	SECTION 1.5, g
SUNDAY	SECTION 1.1, a-i				

CVRKY.COM

NOTES TO CHART

7.

- When doing major maintenance to cableway equipment, allow at least 3 hours to complete job. Many unforeseen problems often arise.
- Many faults can be rectified before they cause operational problems and/or equipment damage, if staff are constantly monitoring the cableway. Because the maintenance chart doesn't show a checking procedure, does, it mean that the item of equipment doesn't have to be checked. The instructions shown on the previous pages are designed to help you establish a maintenance procedure. However, try to be flexible and alert at all times while maintaining your cableway.

Specifically :-

Section 2,b - Do this maintenance procedure on say, Monday morning or some other quiet morning.

Section 3,b - If skiers regularly pull rope out of carrier in normal skiing circumstances, increase of carrier release by a  $1/2$  turn. the next morning.

Section 4,a; 5,a; 5,e

- These maintenance procedures should be done after daily maintenance procedures. Do one carrier per day over say, a 2 week period.

Section 5,c - Can be done anytime while lift is in operation.

- Your Cable Water Ski Park manager should be responsible for the fitting of a large maintenance chart to ensure that each staff member is aware of his job responsibilities and duties in relation to maintenance, place a copy of maintenance procedures beside chart, for easy reference.

2. INSPECTION AND INSTALLATION INSTRUCTIONS

2.1 Main Cables

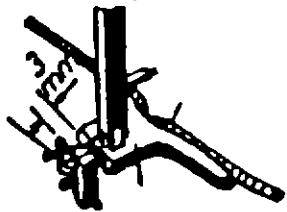
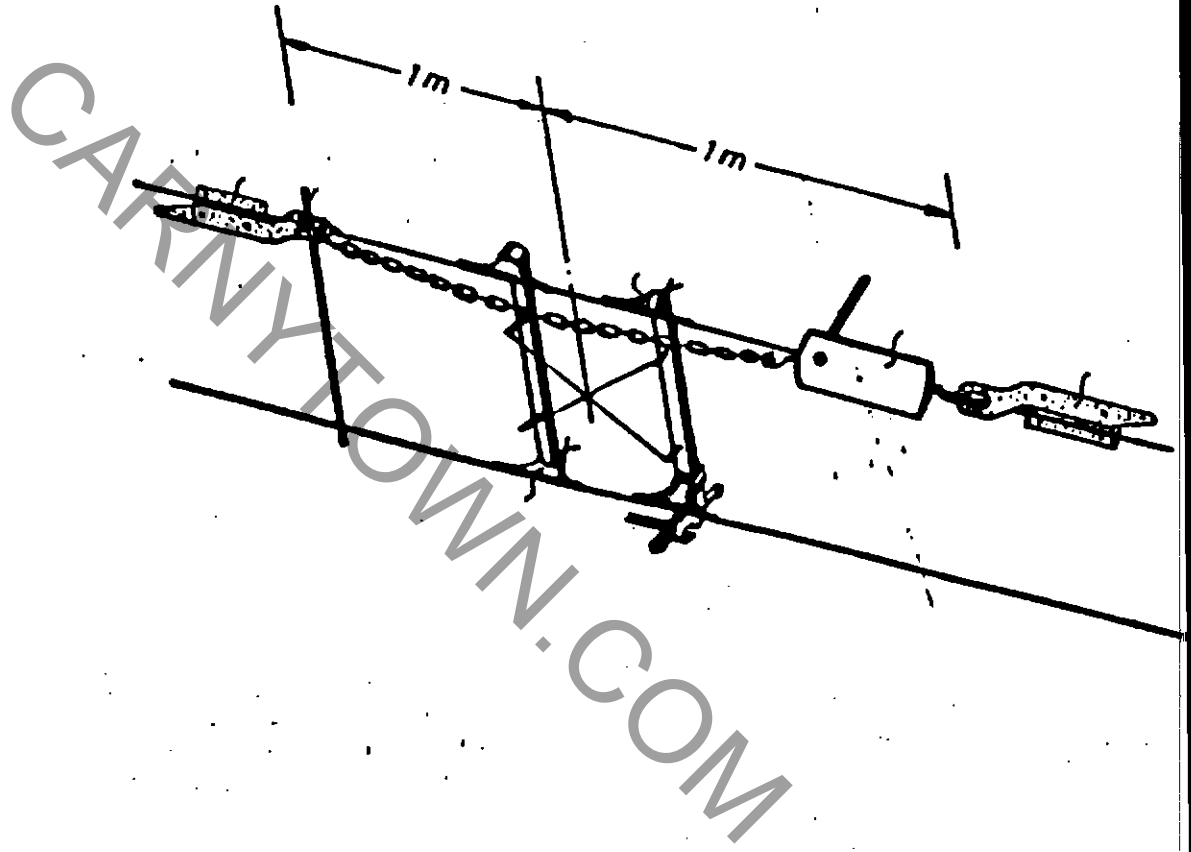
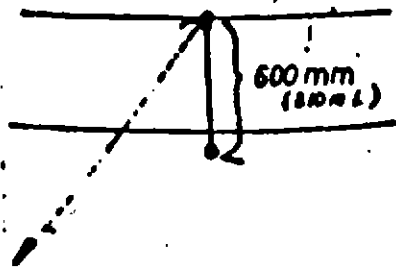
The main cables usually stretch especially when new. This means that:

- 2.1.1 The counter weight must be kept functioning by lifting it. There must be no tension on safety cable.
- 2.1.2 Bloc stop has to be tight.
- 2.1.3 The difference in cable length must be balanced.

CARNYTOWN.COM

## CABLE WATER SKI

2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued 9.
- 2.2 Balance of Main Cables
- 2.2.1 The distance between the upper and the lower cable at the centre of the first straight-way of 310 metres must be 600mm. Shorter distances between pulleys result in a shorter distance between cables (e.g. at a length of 200m the distance between cables should be 525mm).
- 2.2.2 Note that more distance between cables causes greater wear of cables and pulley lining. A smaller distance increases the risk of a derailment. The two cables will stretch differently if the pulley adjustment is not exact.
- 2.2.3 Procedure for balance of cables:  
Assume a Cableway with 8 carriers with wedge clamps at carrier #1.
- 2.2.4 Tools required. Chain puller 3 tons, 2 Rivo-clamps, punch 5mm, hammer 500gr, Ratchet 17mm socket, torque wrench, ring spanner 10/13mm, container for small parts, binoculars, safety ropes, disc-grinder, masking tape, and 2 wooden sticks.
- 2.2.5 **IMPORTANT!** Turn off the Emergency Switch!!
- 2.2.6 To install and remove carriers see over page. The following procedures must be followed:
- 2.2.6.1 Adjust to lowest speed.
- 2.2.6.2 Remove Diagonal-cable screws on carriers #2, 3, 4, 5, 6 and hang dia-cables to the outside.
- 2.2.6.3 If a large amount of cable has to be removed (because of breakage (20cm plus)) loosen tension bands at each carrier on the top cable. Carrier may slide upright as you turn it slowly around pulleys.
- 2.2.6.4 Remove carrier #7 and carrier #8 in that order.
- 2.2.6.5 Mark clamp - spot with masking tape.



2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued
- 2.2 Balance of Main Cables - continued
- 2.2.6.6 Attach measuring wires to the upper cable at the middle of the first straight-way. Don't tighten wire to cable because the cable may turn.
- 2.2.6.7 Carefully move carrier #1 to the working platform (watch the dia-cables at #1). Important: Manually rotate the pulley.
- 2.2.6.8 Check the balance (distance between upper and lower cable). Shorten, if required.
- 2.2.6.9 Loosen the upper/lower wing clamp of carrier #1 until it can be moved.
- 2.2.6.10 Put on RIVO-clamps (secured with rope) 1 metre to the right and hook on chain-puller (also secured with rope). If necessary keep RIVO-clamps from turning with wooden sticks.
- 2.2.6.11 Pull clamps together until distance of the re-tightened cables is 600mm.(As shown in figure on left)
- 2.2.6.12 Remove cable clamps, remove wedge with punch (flat centre punch) and pull both cable ends through by the same distance.
- 2.2.6.13 Replace wedge with a few hammer blows. Check wedge and it's fitting in clamp
- 2.2.6.14 Retighten the cables and inspect the distance between cables with binoculars. Adjust if necessary.
- 2.2.6.15 Place u-bolt in the groove of the wedge. Make sure there is 3mm gap between wedge clamp and u-bolt.(See figure on left)
- 2.2.6.16 Cut off cable ends with disc-grinder.
- 2.2.6.17 Remove chain puller, RIVO-clamps and measuring wire (between #8 and #7).
- 2.2.6.18 Install #1 . Insure that the cable ends clear all parts below motor frame, i.e. magazine, release-track pipes.

2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

2.2 Balance of Main Cables - continued

2.2.6.19 Put #2 to #6 in vertical position. Move them 12mm forward on the cable and attach dia-cables.

2.2.6.20 Then fit #7 and #8 . Note: If carriers are not vertical, they have to be adjusted to a vertical position. Carefully manually rotate the cables.

2.2.6.21 Test run. Re-check carrier position and dia-cable tension.

2.3 Balance of Lift Cables

2.3.1 The following procedures must be followed.

2.3.2 Loosen clamp-bands on the cable that needs to be shortened.

2.3.3 Pump counter weight with the "Jockey".

2.3.4 Manually pull the cable ends through.

2.3.5 Check by hand that the cables are of equal length and tension.

2.4 Pulleys

2.4.1 The following procedures must be followed.

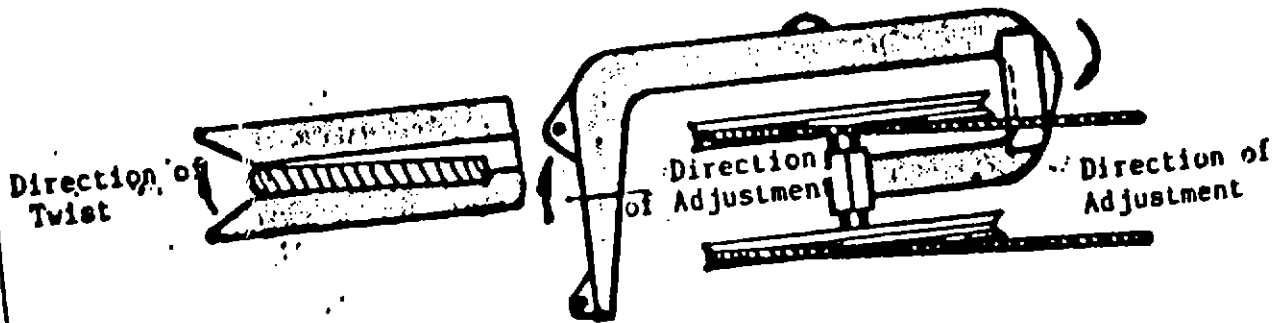
2.4.1.1 Adjust the pulleys until cable runs exactly in the middle of lining. The position of the incoming cable must be checked by the flag test.

2.4.1.2 A badly adjusted running cable turns inwards toward the middle of the lining.

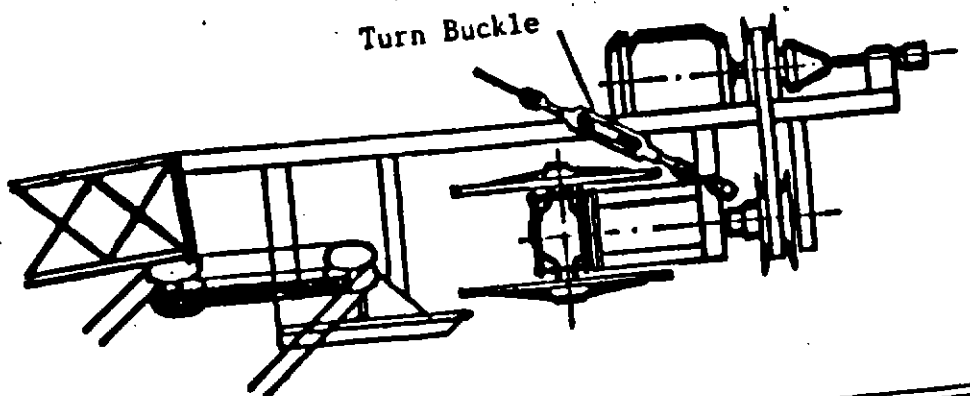
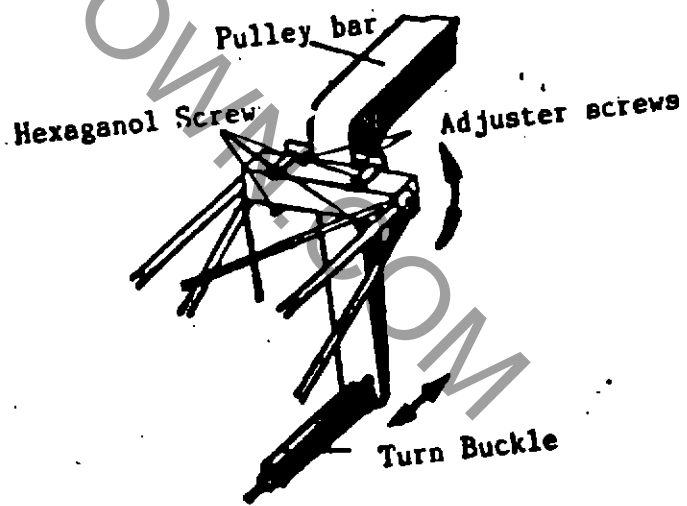
2.4.1.3 To see the twist, put masking tape flags on both cables approx. 40m in front of a carrier.

2.4.1.4 Note that the flags only show the position of the incoming cable. Visually adjust the outgoing part of the cable, from eye judgement or lining wear. No-one must be allowed to stay on boom or pulley while checking. Select low speed.

4 R



### VARIOUS PULLEY ADJUSTMENT



## CABLE WATER SKI

12

### 2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

#### 2.5 Pulley at Counter Weight Tower/Pulley Adjustment

2.5.1 Tools required. Lever bar (pipe), open ends 41mm, safety rope.

2.5.2 The following procedures must be followed.

2.5.2.1 No need to adjust the horizontal balance of pulley.

2.5.2.2 Adjustments are made with turnbuckle (do 1/2 turn at a time, then check).

#### 2.6 Pulleys at Boom Tower/Adjustment

2.6.1 Tools required. Ring spanner 17/19 and 30mm, open ender 17/19 and 30mm and allen key 10mm.

2.6.2 The following procedures must be followed:

2.6.2.1 Adjustment to be made in the lateral direction by loosening allen screws by not more than a quarter of a turn.

2.6.2.2 Adjust pulley in lateral direction with set screw.

2.6.2.3 Adjustment in longitudinal direction (nose up and down) by adjusting the turn buckle at the bottom (see diagram opposite).

#### 2.7 Pulley at Motor Tower/Adjustment

2.7.1 Tools required. Lever-bar, open ender 41mm.

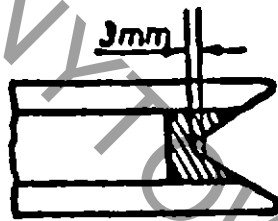
2.7.2 The following procedures must be followed.

2.7.2.1 Crosswise movements, adjustment at turn buckle.

2.7.2.2 Longwise movements, turn both turn buckles equally.

2.7.2.3 Note that all cables going to the motor frame and the hand rail have to be adjusted.

**PULLEY LINING REPLACEMENT**



**No Hardened Steel**



2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

2.8 Pulley Lining Change/Procedure

2.8.1 Tools required. Lever bar, hammer, steel or hard wood file, hack saw and mild steel tool that fits into lining groove.

2.8.2 The following procedures must be followed.

2.8.2.1 A lining change is necessary at max. 3mm wear, or if lining is not worn centrally.

2.8.2.2 Lever out one lining section at a time and replace it with a new lining.

2.8.2.3 New lining has to be hammered evenly into the pulley. Check the depth.

2.8.2.4 Note, always change lining at the upper and lower pulley simultaneously. Leave 5mm space between the lining segments.

2.9 Lift Pulleys/Adjustments

2.9.1 Tools required. Open ender 17/19mm, ring spanner 17/19 and 13mm.

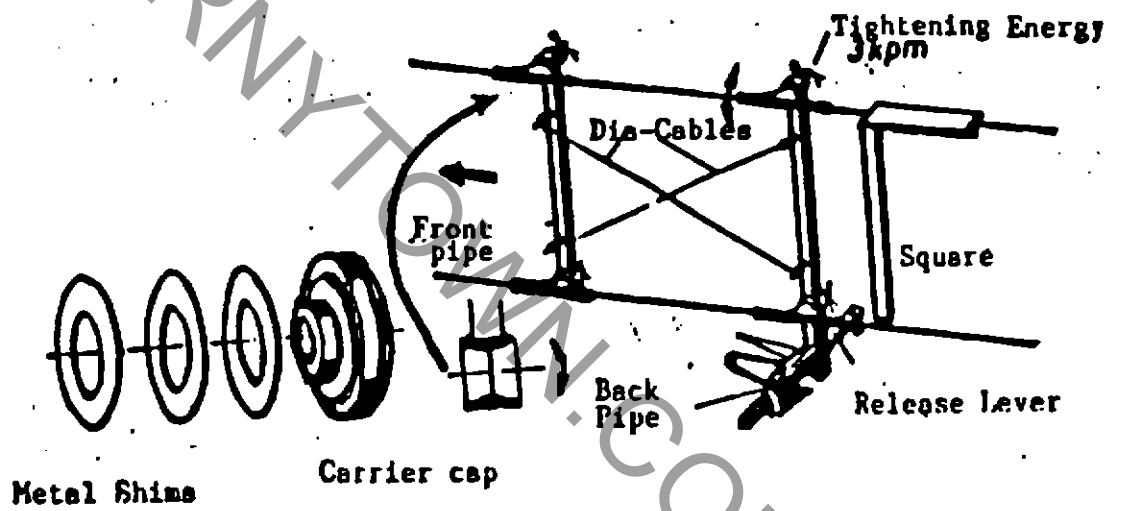
2.9.2 The following procedure must be followed.

2.9.2.1. Slide rails of lift drive must be swivelled up or down to adjust pulleys.

2.9.2.2 Upper pulleys are adjusted by lifting or lowering where it hangs on tabs to tower.

2.9.2.3 Note that these adjustments may lead to a subsequent adjustment of the position of the pulley to the magazine. Also check position of fork-stop.

CARRIER



2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

2.10 Carriers/Installation and Adjustments

2.10.1 Tools required. Ratchet with 17mm socket. Torque wrench with 17mm socket, ring spanner 10/13mm, square, rubber hammer, screw driver.

2.10.2 Note, do not mix up the wing-clamps, carrier caps and metal shims that have been fitted together!

2.10.3 The following procedures must be followed.

2.10.3.1 Clean and grease the friction areas and securing screws.

2.10.3.2 Carrier caps have 3 metal shims. To guarantee even wear (ie no play) remove metal shims as required (1 shim is 0.1mm thick).

2.10.3.3 Set rear carrier bar in a vertical position with the square.

2.10.3.4 Tighten up crown-nuts to 3kpm (30kp).

2.10.3.5 Dia-cables are tightened up by moving the front carrier bar. Use rubber hammer. (Install the all direction joint of carrier bar to the top).

2.10.2.6 Check swivel point mobility of wing-clamps and the function of snapper, release lever and pin.

2.11 Adjusting the Cheesehead Screw

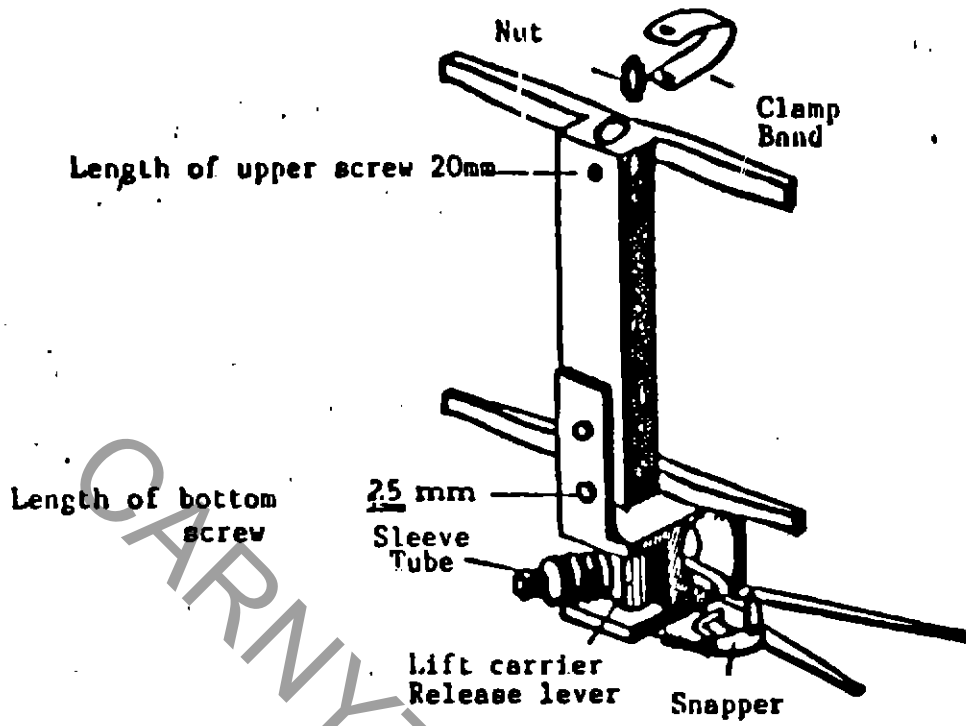
2.11.1 The following procedures must be followed.

2.11.1.1 Move fork into catching position.

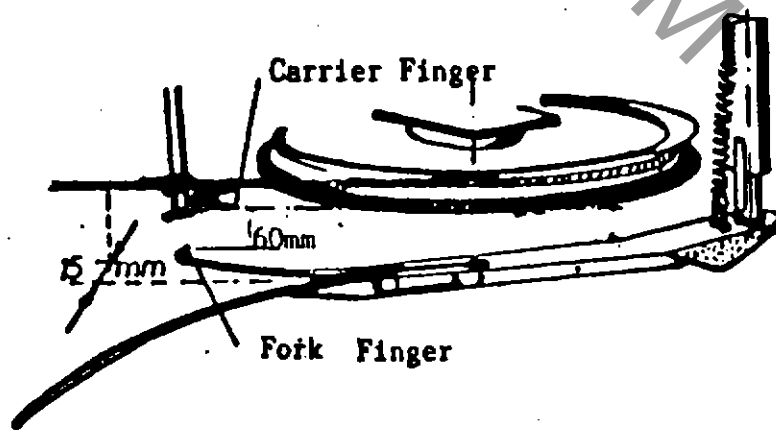
2.11.1.2 Move carrier by hand until cheesehead screw is in the area 30mm before the adjustment bare for the track, ball rope should release in this area.

2.11.1.3 Adjust cheesehead screw until ball rope falls out of carrier, make sure there is 1 mm clearance in carrier as ball rope comes out.

LIFT PICK UP AND PARTS



FORK IN PICK-UP POSITION



2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

2.12 Lift Carriers/Installation and Adjustment

2.12.1 Tools required. Spanner with screw-drive handle, open ender 10mm.

2.12.2 The following procedures must be followed.

2.12.2.1 The holes in the clamp-band must sit into the retaining bolt, which holds dividers to cables.

2.12.2.2 Check function of snapper.

2.12.2.3 Adjust release energy until you can manually pull out ball rope (15kp).

2.12.2.4 For adjustment loosen lock nut and turn sleeve tube in or out depending on requirement. There should be approx. 16 cup washers on each sleeve.

2.12.2.5 Release lever can be used from both sides (if one side is worn, turn the lever around).

2.13 Fork, Fork Stops/Installation and Adjustment

2.13.1 Tools required. Open ender 10/13 and 17/19, ring spanner 10/13 and 17/19.

2.13.2 The position of the fork and fork stop in catching position must be as follows:

2.13.2.1 The fork slot is 15mm outside of cable from the top view.

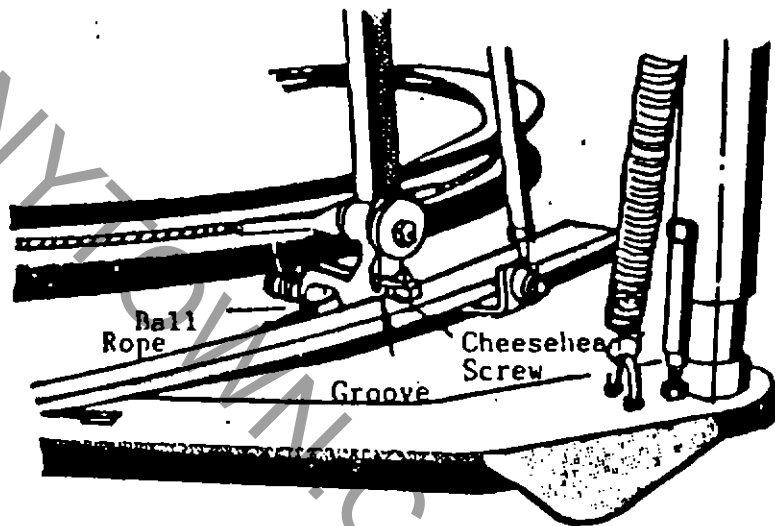
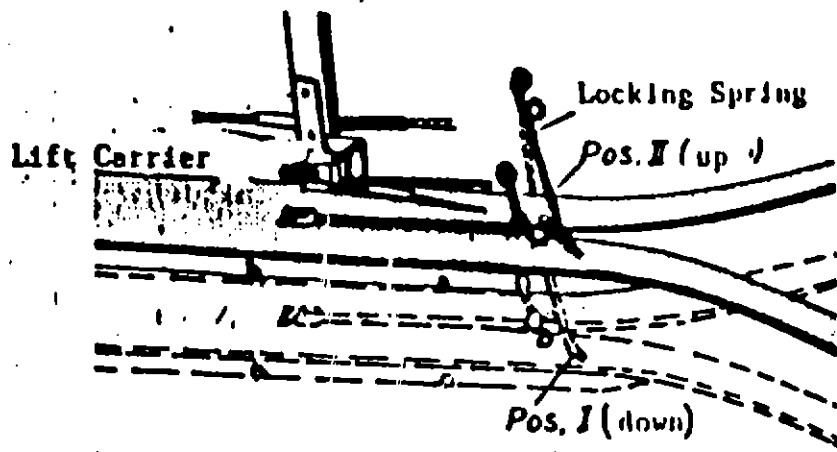
2.13.2.2 The very top of the fork finger is 60mm below the lowest point of carrier finger.

2.13.2.3 The tube end of fork is correctly adjusted if the carrier finger is as close as possible to the fork without touching it, taking into account maximum movement down of carrier.

2.13.3 Adjust the fork stop at rest as follows:

2.13.3.1 The forks snapper must open completely (even with a tight rope).

BACK-UP FORK IN RESTING POSITION



TRACK IN RELEASE POSITION, SHOWING PLACE THAT CHEESEHEAD NUT SHOULD RELEASE BALL ROPE FROM CARRIER.

2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

2.13 Fork, Fork Stops/Installation and Adjustment - continued

2.13.3.2 The ball rope is in the passage way of the lift carrier.

2.13.3.3 The stop in the rest position must be adjusted until the lift carrier-finger runs approx. 15mm above the fork.

2.13.3.4 The fork snapper must prevent the ball rope from falling out when the fork is swinging back. Check it moves freely.

2.13.3.5 If the fork is in the stop position, the locking spring must prevent the ball rope from falling out or from being pushed out by a lift carrier.

2.13.3.6 Adjust the operators cables so that catch fork functions correctly.

2.14 Release Track/Installation and Adjustment

2.14.1 Tools required. Ring spanner 17/19, open ender 10mm and 17/19, rubber hammer.

2.14.2 The following procedures must be followed.

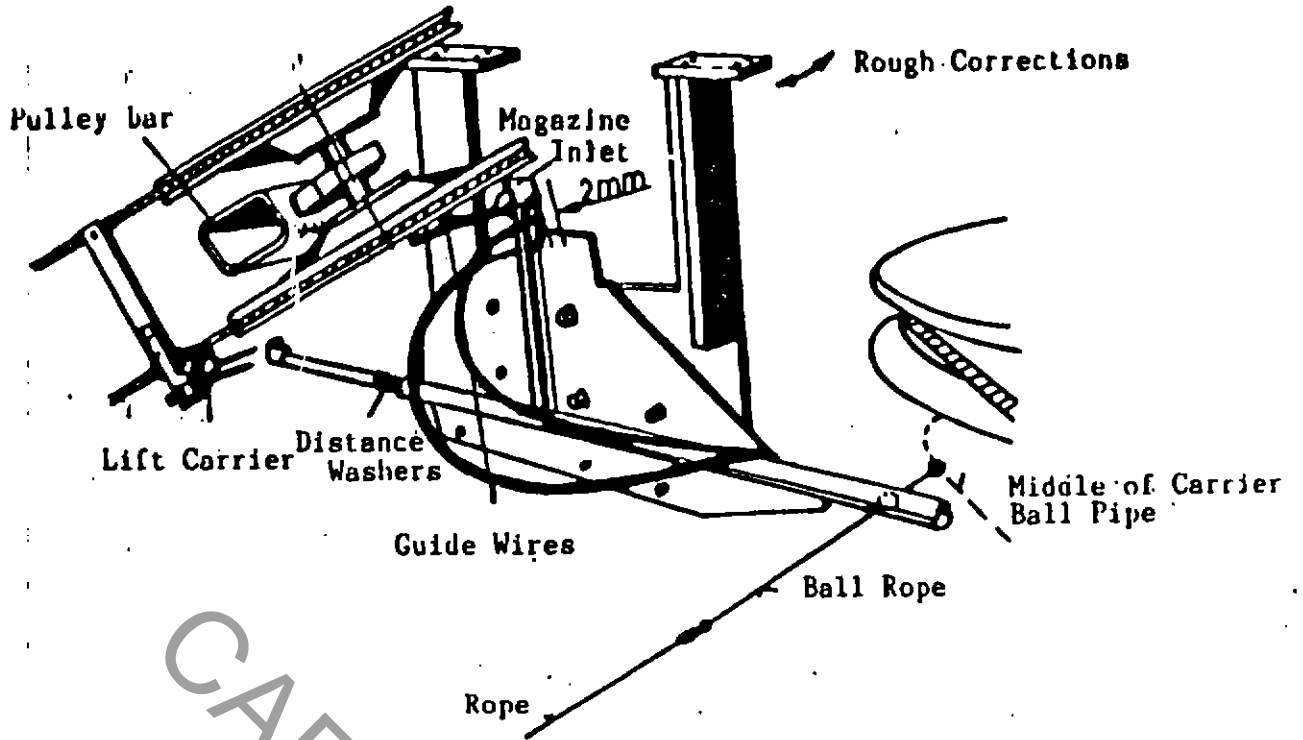
2.14.2.1 The fork is in catching position and the release track is lifted.

2.14.2.2 The cheesehead screw has to run in the middle of the track. If not, twist vertical holding pipe, or change position of the twist-bolt.

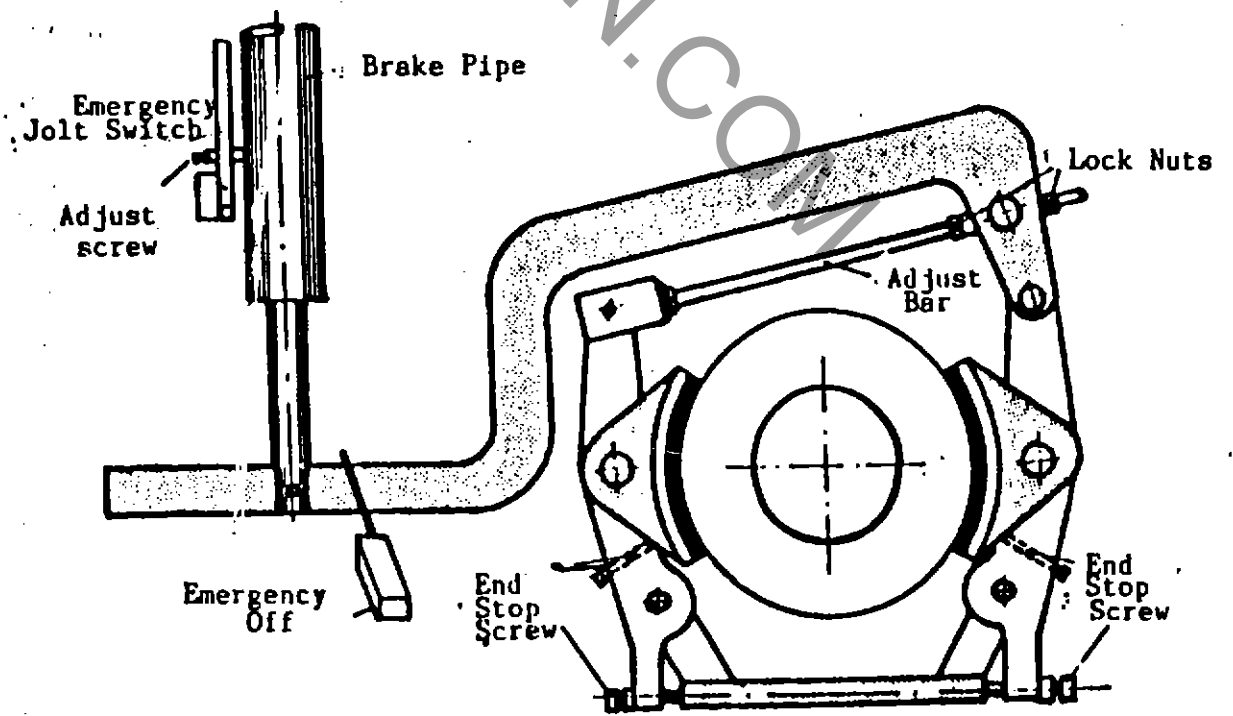
2.14.2.3 The middle part of the runway of the release track must be parallel to the cable. Adjustments are made at the holding pipe and at the swivel joints.

2.14.2.4 The release lever of carrier must release the ball rope at the groove or 30mm in front of bend in track. But before it releases, the ball rope has to pass the fork snapper, otherwise the rope will be pulled out by the skier.

ELEVATOR, MAGAZINE AND LOADING BAR



BRAKING MECHANISM



2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

2.15 Magazine/Installation and Adjustments

2.15.1 Tools required. Ring spanner 17/19 and open ender 17/19.

2.15.2 The position of the magazine is given by the position of the ball when it is caught by the carrier. In the loading position the first ball should fit exactly in the carriers ball pipe.

2.15.2.1 Adjustments are made horizontally by rotating the magazine at its attachment to the frame, or by installing or removing the distance-washers at the end of the loading bar eg. to equalise lining wear.

2.15.2.2 Always check function of:

- Magazine
- Magazine-spring, and
- Magazine-snapper

2.15.2.3 Lift carriers should run with approx. 2mm distance around magazine entrance. The guide-wires have to be bent until they correspond to the lift-carriers passageway.

2.15.2.4 Large movements of the magazine also require an adjustment to the pulley loading bar.

2.15.2.5 The spring on the operators cable must be 5mm pre-tightened in loading position.

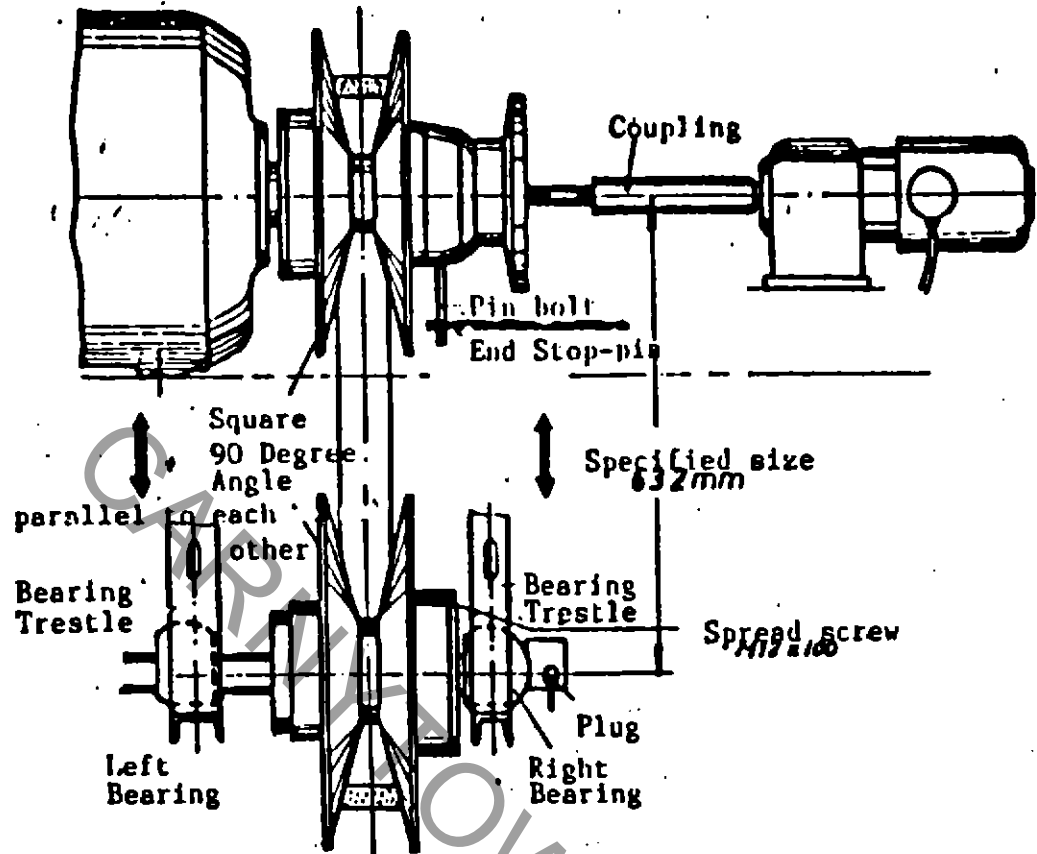
2.16 Brake/Adjustments

2.16.1 Tools required. Ring spanner 13/17 and 8mm, open ender 13/17.

2.16.2 The following procedures must be followed.

2.16.2.1 Loosen lock nut on adjuster bar. Tighten adjustment nut until there is no play.

# VARIABLE SPEED MECHANISM



2. INSPECTION AND INSTALLATION INSTRUCTIONS - continued

2.16 Brake/Adjustments - continued

2.16.2.2 End stop screws are tightened until brake-shoes sit equally on drum.

2.16.2.3 Set adjustment screw at jolt-emergency stop switch so that it reacts only after a move greater in the tower than the movement at normal resting position.

2.16.2.4 Check function of emergency switch by pulling on the brake pipe.

2.17 Power Drive and Variable Speed Unit

2.17.1 Tools required. Ring 10/13 and 17/19 , open ender 10/13 and 17/19 and spread screw M12.

2.17.2 The stretching of the main V Belt and the resulting difference in the rpm's is compensated by moving the bottom containing cradle. Make sure the V belt pulleys are square and parallel. Do the same amount of turns on all 4 adjusting nuts.

2.17.3 To replace V-Belt if it is worn or damaged:

2.17.3.1 Adjust to lowest speed.

2.17.3.2 Mark position of bearing and bearing trestle.

2.17.3.3 Remove pin bolt and end stop slide.

2.17.3.4 Remove coupling.

2.17.3.5 Spread bottom pulley with spread screw M12.

2.17.3.6 Undo bolts on right bearing.

2.17.3.7 Relieve the tension of the right bearing trestle.

2.17.3.8 Remove plug of speedometer.

2.17.3.9 Take out V-Belt.

2.17.3.10 Installation is the opposite procedure.

3.0 MALFUNCTIONS

3.1 Main Cable/Pulley

3.1.1 The following chart highlights common problem areas and their suggested remedies.

<u>Problem</u>	<u>Remedy</u>
The cable is tumbling and swinging sideways excessively	Balance cables. Pump up counter weight. Grease counterweight nylon pulleys.
Cable flutters	Pulley is warped in level. Pulley lining is damaged.
Cables stretch differently	Balance cables. Adjustment of pulleys is not correct.
Dia-cables tear, carriers are slanting and moving out of square	Balance cables. Adjustment of pulley not correct. Too much tension on dia-cables.
Lining wear	Adjustment of pulley. Change lining after more than 3mm wear.
	Crossway level is wrong. Adjust the incoming or outgoing side of pulley. Level in direction of boom is possibly incorrect (longwise level).
	Incoming side, outgoing side (lateral level) is wrong. Also, longwise level wrong (direction of boom); Change lining after more than 2mm wear.
Wire-breaks in main cable.	Change whole set of cables or cut out damaged parts and join with wedge clamps: <ul style="list-style-type: none"> <li>- If 1 cord is broken (1 set of wires).</li> <li>- If, within 60mm of cable, there are more than 5 single wire breaks.</li> <li>- If, within a distance of 300mm, there are more than 10 single wire breaks.</li> </ul>
Constant noisy operation at one of the pulleys	Grease Bearing broken, immediately stop and check.



3.0 HALFUNCTIONS - continued

3.2 Carriers

3.2.1 The following chart highlights common problem areas and their suggested remedies.

<u>Problem</u>	<u>Remedy</u>
Loud noise while carrier moving around pulleys.	Immediately stop and check whether parts of carrier is loose. On old carriers, crossways play might be excessive, remove metal shims.
Loud noise while carrier passing release track.	Cheesehead screw is not adjusted right. Eye screw is broken and spring is missing.
Ball rope isn't caught by carrier.	Ball rope is bent; Loading bar is not pushed forward enough. Lining is worn down.
Ball rope drops out of carrier immediately after being caught.	Carrier snapper is tight or gone. Eye screw is missing (spring)
Ball rope is frequently pulled out of carrier.	Check energy of release. Check function of release-lever.
Ball rope is hanging over the fork.	Release lever opens too late. Adjust cheesehead screw. Fork is too low.
Dia-cables break, carriers are not perpendicular.	Balance cables. Adjustment of pulleys is not correct. Dia-cables are too tight.
Thread of tension clamp bolt (with clamp) is damaged.	Grease thread. Tighten screw with torque tool (3kpm).
Wing clamp joint does not move.	Metal shims are missing. Grease.
Eye screws break away.	Release energy is too high. Cheesehead screw is not set right.

3.0 MALFUNCTIONS - continued3.3 Lift Carriers

3.3.1 The following chart highlights common problem areas and their suggested remedies.

<u>Problem</u>	<u>Remedy</u>
Loud noise while passing magazine.	Carrier hits magazine or fork.
Loud noise around the pulleys.	Lift carrier catches locking spring (fork). Carrier is not set square.
Ski-rope is jerked when it drops into the magazine (rope jumps up).	Rubber rope brake is damaged. Rope splice is too long. Rope too short. Magazine guide wires bent. 2nd ball is pulled behind magazine. Ball on ball rope is too big.
Lift carrier pushes ball ropes out of fork.	Locking spring is missing or is not set right. Fork snapper sticks. Fork stop is not properly set.
Ball rope drops out of lift carrier.	Snapper is missing, sticking, or spring is too loose. Tension washer and sleeve have come loose.
Lift carrier jerks ball rope out of fork.	Fork is not at stop position. Snapper does not give way. Move fork stop or adjust swivel joints. Forks fingers are too close together. Lift carrier is not squarely set.
Lift carrier does not catch ball rope.	Ball rope bent. Forks groove is not exactly under the carriers passage way. Fork is too low. Forks main spring is too loose. Fork pipe is not greased. 2nd ball on ball rope was pulled through security shutter. Fork stop is in incorrect position.

3.0 MAJFUNCTIONS - continued3.4 Fork and Release Track

3.4.1 The following chart highlights common problem areas and their suggested remedies.

<u>Problem</u>	<u>Remedy</u>
Ball rope drops out of fork while catching.	Ball rope misses fork or pulls fork to one side. Adjust operator cable and/or fork stop. Fork snapper sticks or is missing. Fork fingers are too close or too far apart. Cheesehead screw and/or release track are not adjusted right. Too much pull by the skier.
Ball rope hangs over fork.	Ball rope is bent, or damaged between ball 2 and 3. Fork fingers too close together. Fork too low. Fork is not centred with cable. Release point is not set right. The plastic cover under the bottom wheel is damaged.
Fork does not fit in or out of hole in the outer fork stop.	Fork is bent, bend back. Fork stop is not set right.
Fork does not move easily.	Grease, fork pipe, swivel pipes and balljoints.
Play in fork and fork pipe.	Swivel joints worn out. Fork tube bushes are worn. Liners at swivel pipes are worn.

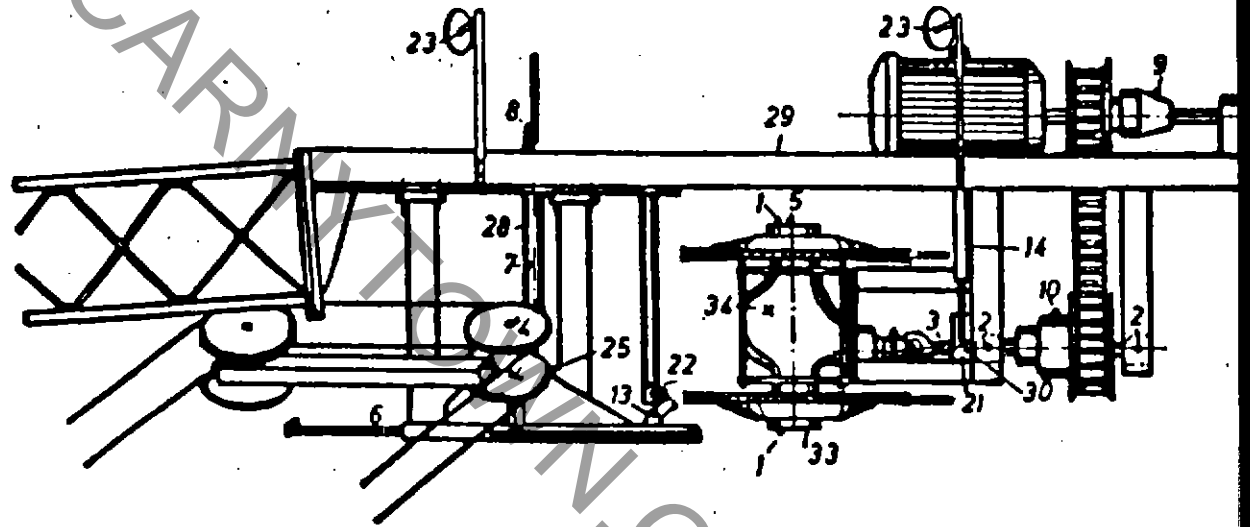
3.0 MAJFUNCTIONS - continued

3.5 Magazine/Lift

3.5.1 The following chart highlights common problem areas and their suggested remedies.

<u>Problem</u>	<u>Remedy</u>
	<u>Magazine</u>
Ropes are pushed out of magazine pipe while loading.	Rope too loose. Loading bar is pushed too far forward. Put on distance washers at the end of bar.
Ball ropes aren't caught by carriers	Carrier is damaged. Ball rope bent. Operator cable is too long. Magazine is not set properly. Pulley lining is worn down.
Ropes don't drop down in magazine pipe.	Ball rope is damaged. balls are dirty. Guide wires are bent. Ropes too short. Magazine tube needs adjusting. Magazine clicker is malfunctioning.
2nd ball gets pulled behind magazine.	Rubber rope brake doesn't work. Distance between lift carrier and magazine is too large. Guide wires have to be bent. Lift speed is too high. The ball doesn't move easily in the lift carrier, sticks.
	<u>Lift</u>
Too much wear in V-Belt	V-Belt runs on the bottom of V-Belt pulley. Bearing is worn down.
Lift cable jumps out of pulleys.	Balance the cables. Carriers are not set square. Ropes jump into the lift repair rubber rope brake. Counter weight and slide rails don't move properly, grease. Release energy of lift carrier is set too high.

MOTOR TOWER LAYOUT AND LUBRICATION POINTS



3.0

MAJFUNCTIONS - continuedLubrication Chart

- |   |  |
|---|--|
| 1) Drive shaft and pulley bearings        | 21) Brake joints   |
| 2) Bearing of lower V-Belt                | 22) Turning joint of release track   |
| 3) Carden shaft                           | 23) Operator cable pulleys, operator cables  |
| 4) Lift pulleys                           | 24) Joint of release lever (carrier)   |
| 5) Upper pulley, inner nipple             | 25) Magazine snapper   |
| 6) Loading bar                            | 26) Fork snapper   |
| 7) Fork pipe, fork bolt                   | 27) Joint of security shutter  |
| 8) Swivel pipes                           | 28) Fork bolts   |
| 9) Central speed change thread            | 29) Anti-static device   |
| 10) Lower gear unit                       | 30) Joints of brake shoes  |
| 11) Swivel joints                         | 31)  |
| 12) Wing clamps                           | 32)  |
| 13) Release track                         | 33) Differential outlet  |
| 14) Release bolt of jolt emergency switch | 34) Differential fillup; use differential oil, hupoid SAE 90 oil change every 5000 op hours. |

Operator Stand

- |                                    |                                |
|------------------------------------|--------------------------------|
| 15) Lift pulleys                   | 35) Lift carrier release lever |
| 16) Wrist pin in lift motor        | 36) Lift carrier snapper       |
| 17) Counter weight wheels          | 37)                            |
| 18) Slide rails of lift drive unit | 38)                            |
| 19) Joints in operator levers      | 39)                            |

Others

- |                           |                                     |
|---------------------------|-------------------------------------|
| 20) Counter weight wheels | 40) Cross joint bolts (pylon-boom)  |
|                           | 41) Cable puller at counter weight. |

CABLE WATER SKI

4.0

SPARE PARTS LIST AND IDENTIFICATION SHEET

See over page.

CARNYTOWN.COM

Sender:

Order 1986

EU 10 mm

Ref.:

Date:

Firma  
Rixen Seilbahnen  
Pfälzer-Wald-Straße 65  
D-8000 München 90

Prices: Net ex works, unpacked plus freight charges. For orders less than 100 DM a surcharge of 20 DM would be added.

Payment: 30 days net. Thereafter 1 % interest per month.

Shipping Address	Required Method of Shipping
<input type="checkbox"/> See above address	<input type="checkbox"/> Land/ sea freight
<input type="checkbox"/> .....	<input type="checkbox"/> Air freight
<input type="checkbox"/> .....	<input type="checkbox"/> Station/ airport:

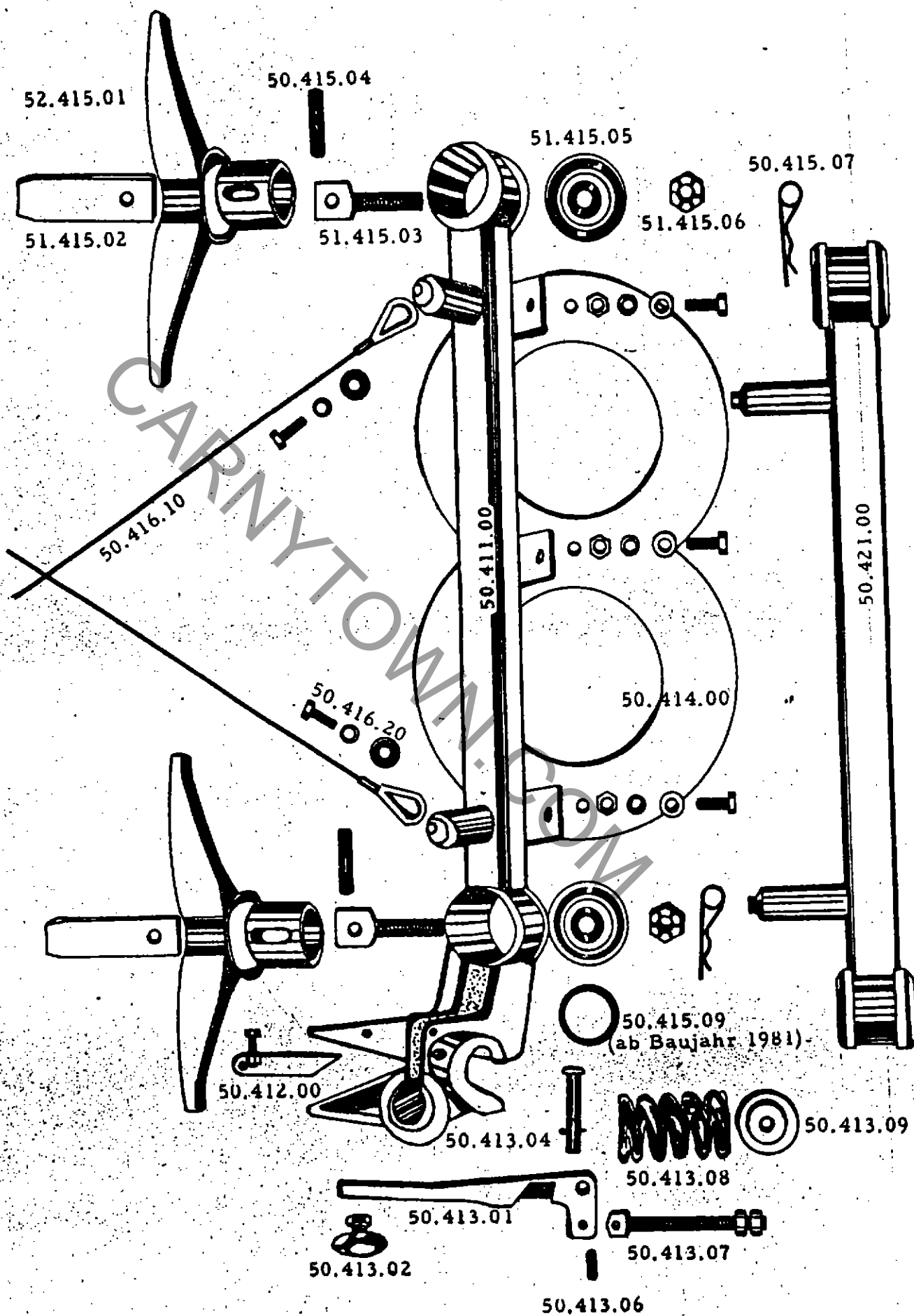
Part Number	Description	Dimens. mm	N° Reqd.	N° Exist.	Order	N° Del.	Part price DM	Total price DM
	Carrier							
50.411.00	Rear carrier tube	500 x 25	2				278, --	
50.412.00	Latch complete	42 x 10,3	10				2, 40	
50.413.01	Coupling lever	142 x 36	2				36, --	
50.413.02	Cheese head bolt	M 8 x 18	10				3, 30	
50.413.04	Hinge pin complete	8 h 11 x 35	3				3, 10	
50.413.06	Dowel pin	6 m 6 x 14	5				0, 50	
50.413.07	Eye bolt complete	M 8 x 90	5				4, 10	
50.413.08	Coupling spring	32 dm x 60	5				4, 50	
50.413.09	Spring pressure ring	ø 35 x 9	5				3, 10	
50.414.00	Number compl. (1-0)	315 x 175	-				15, 50	
52.415.01	Cable clamp body	200 x 90	6				55, 60	
51.415.02	Tension clamp	148,5 x 20	12				6, 20	
51.415.03	Tension clamp bolt	M 10 x 61	12				8, 20	
50.415.04	Dowel pin	8 h 9 x 32	12				1, 30	
51.415.05	Cover	45 x 12	12				12, 40	
51.415.06	Castle nut	M 10	20				0, 50	
50.415.07	Safety pin	50 x 2 ø	30				0, 50	
50.415.08	Rubber shim (till 1981)	ø 6	20				1, --	
50.415.09	Metal shim (from 1981)	ø 35 x 0,1	40				0, 30	
50.416.10	Diagonal (Dia) cable	ø 2 x 670	30				4, 70	
50.416.20	Dia cable washer compl	ø 18 x 3	30				0, 60	
50.421.00	Forward carrier tube	450 x 25	2				132, --	
50.431.00	Rear carr. tube (wed. cl)	500 x 25	1				278, --	
50.441.00	Fwd. carr. tube (wed. cl.)	450 x 25	3				132, --	
50.432.00	Wedge clamp	230 x 170	3				119, --	
50.432.02	Wedge	60 x 20	5				13, 40	
50.432.03	Allen bolt	M 10	5				2, --	
50.432.06	Cable clamp f. wed. cl.	10 mm	10				8, 80	
50.446.20	Dia clamp washer	ø 25 x 12	3				6, 30	
50.480.10	Ball cable	ø 4 x 502	40				13, 90	
50.410.00	Rear carrier complete						523, --	
50.420.00	Forward carrier compl.						309, --	
50.430.00	Rear carrier (wedge clamp) compl						579, --	
50.440.00	Forwd carr. (wedge clamp) compl						365, --	



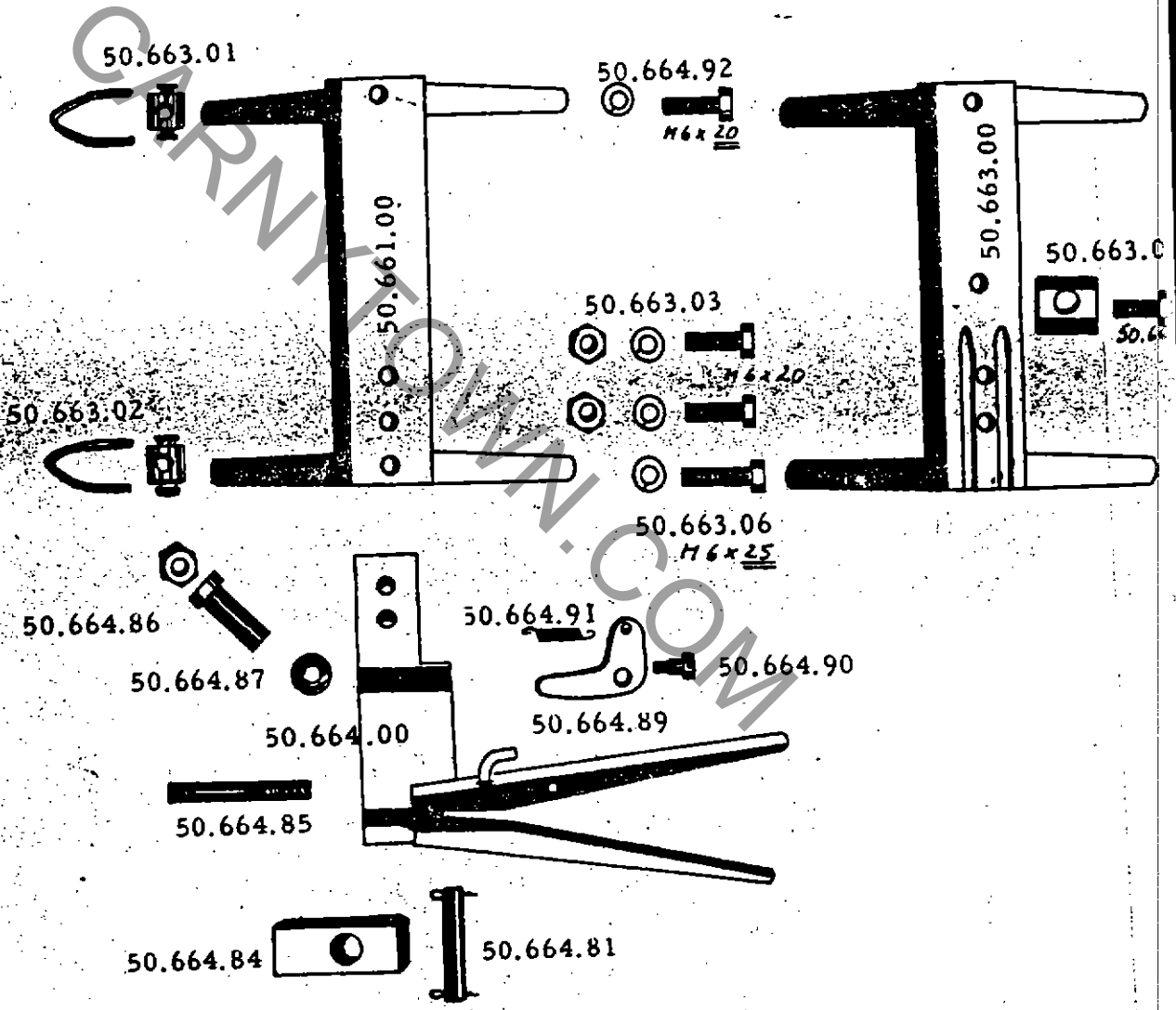


Part number	Description	Dimens. mm	N° Reqd.	N° Exist	Order	N° Del.	Part price DM	Total price DM	
							Carried fwd		
	General Accessories								
1.855.10	Rivo clamp	10 mm	4				138, --		
50.855.30	Rivo clamp	4 mm	2				69, --		
50.883.01	Torque wrench	450 x 80	1				139, --		
0.883.10	Snap gauge		1				44, 30		
50.883.20	Spring balance	up to 25 kg	1				14, 40		
50.886.01	Ball bearing grease	1-kg-tin	2				24, 90		
0.886.02	Cable oil (Spray can)	500 g	3				16, 50		
50.886.03	Grease cartridge	400 g	4				9, 20		
50.854.41	Chain hoist	3 t	-				680, --		
1.854.01	Grip hoist, oper. lever	3, 2 t	-				942, --		
51.854.04	Cable for grip hoist	40 m	-				342, --		
50.854.21	Jockey, small hoist	up to 500 kg	-				227, --		
	Electrical Parts								
0.916.00	Limit switch for gearbox motor		-				85, --		
0.918.00	Tacho generator		-				556, --		
0.922.20	Tacho indicator		-				767, --		
							607, --		
51.854.01	Grip hoist, oper. lev.	1.6 t	-				204, --		
51.854.03	Cable for grip hoist	40 m	-				Sum		

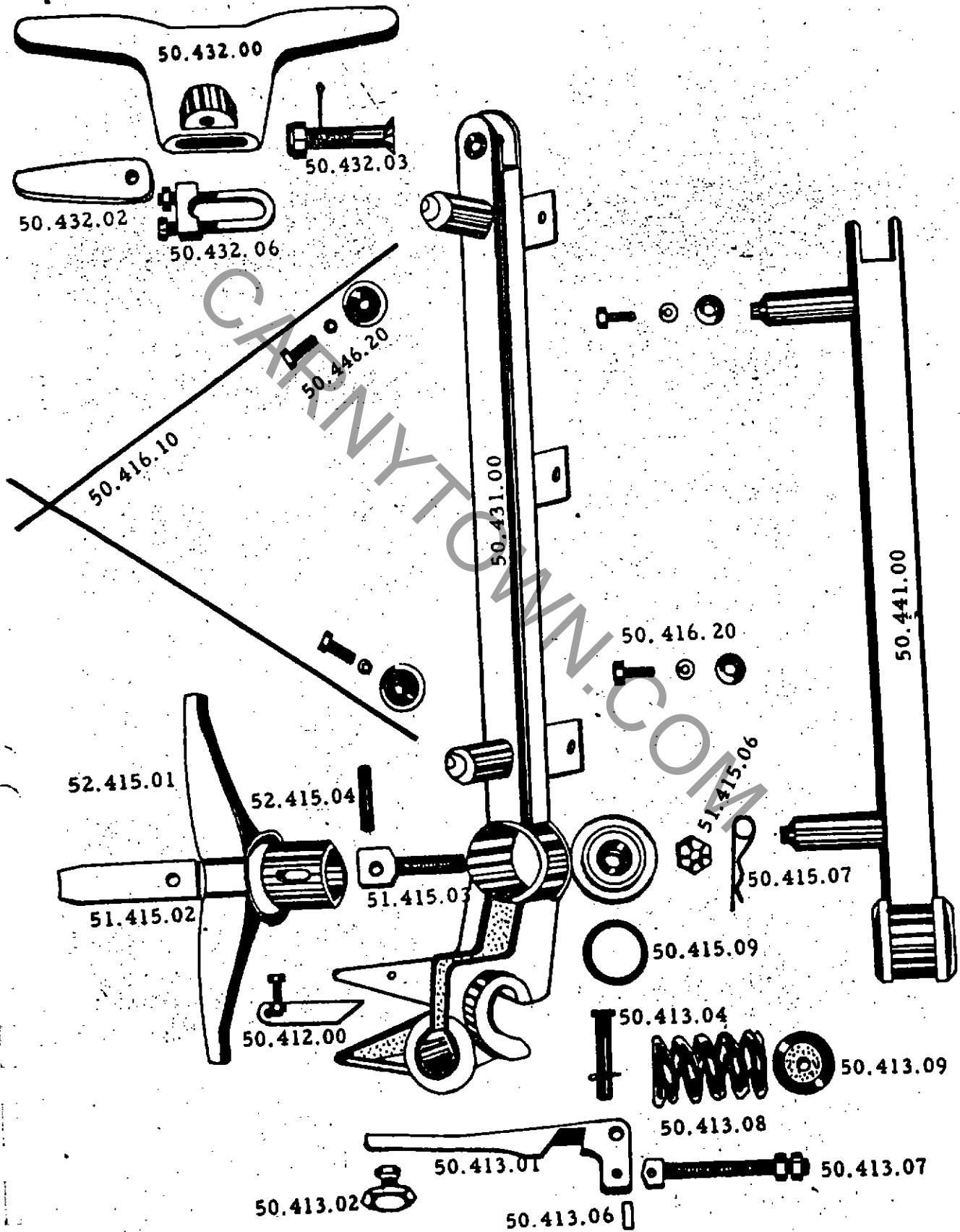
REAR CARRIER



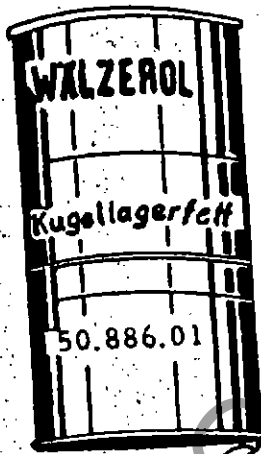
LIFT-PICK UP



JOINER CARRIER



OTHER PARTS



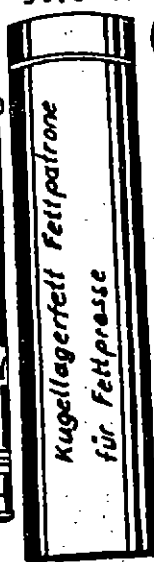
50.831.70



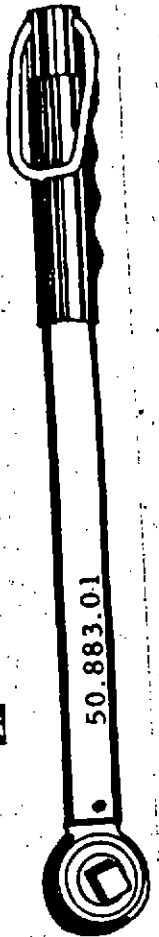
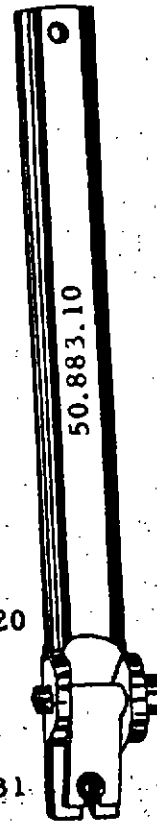
50.886.02



50.886.03



50.883.20



50.673.50



50.824.14



50.824.12



50.824.11



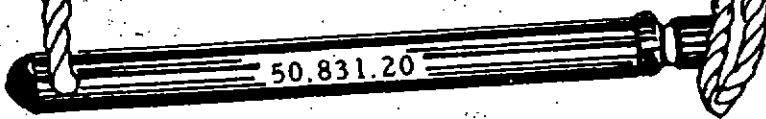
50.824.01



50.824.52



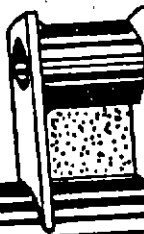
50.831.20



51.697.40



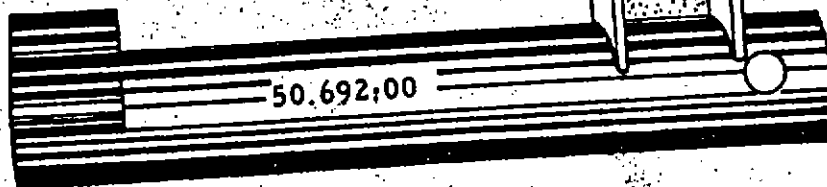
50.694.00



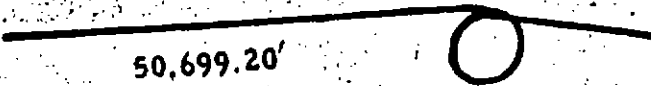
50.694.01



50.692.00



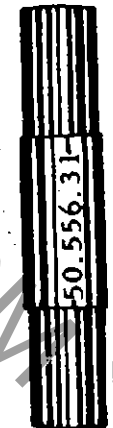
50.699.20



50.686.31

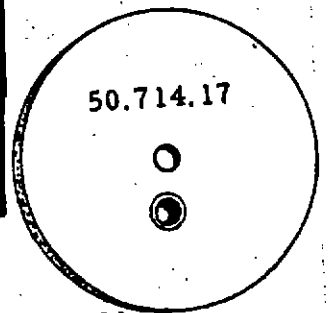


50.556.31

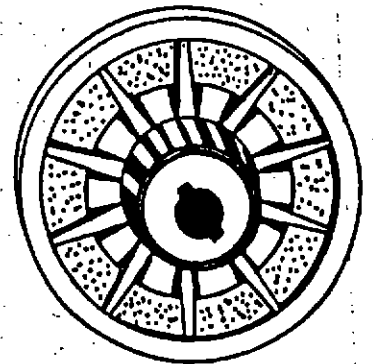


50.714.05

50.714.17



50.635.00





DAILY MAINTENANCE REPORT

DAY: \_\_\_\_\_ DATE: \_\_\_\_\_ HOURS: \_\_\_\_\_

DAILY MAINTENANCE

Carriers: -  
Parts Replaced

Comments

Elevator/Lifts: -  
Parts Replaced

Comments

Fork: -  
Parts Replaced

Comments

Magazine: -  
Parts Replaced

Comments

Other Maintenance and Part Used (Specify): -

CABLE WATER SKI  
OPERATIONS AND PROCEDURES  
MANUAL

CARNYTOWN.COM

CABLE WATER SKI  
OPERATIONS AND PROCEDURES MANUAL

TABLE OF CONTENTS

- 1.0     SALES AND CUSTOMER SERVICE
- 1.1     Attitude to Yourself and Your Job
- 1.2     Your Attitude to Your Customers
- 1.3     Qualities of a Cable Water Ski Sales Person
- 1.4     Product Knowledge
- 1.5     Greeting the Customer
- 
- 2.0     OPERATION OF THE CABLEWAY
- 2.1     Objective of the Operator
- 2.2     Duties of the Operator
- 2.3     Operating the Cableway
- 
- 3.0     ANIMATING
- 3.1     Objectives of the Animator
- 3.2     Duties of the Animator
- 3.3     Procedure for the Animator
- 
- 4.0     TEACHING CORRECT SKIING TECHNIQUE
- 4.1     Corners
- 4.2     Exit
- 4.3     Beginners or Double Skiers
- 4.4     Slalom Skiers
- 4.5     Advanced Slalom
- 4.6     Knee Boards
- 4.7     Falls
- 4.8     All Skiers

## CABLE WATER SKI

### 1.0 SALES AND CUSTOMER SERVICE

#### 1.1 Attitude to Yourself and Your Job

- 1.1.1 Your attitude to your job is important because the right attitude will increase your effectiveness as a salesperson and add greatly to the satisfaction you gain from your job.
- 1.1.2 If you consider yourself - as a Cable Water Skiing Australia salesperson - to be an advisor, an expert in Cable Water Skiing equipment, operation and customer service, and a representative of the CWSA organisation, your work will be interesting and enjoyable.
- 1.1.3 Your role is to advise customers in selecting items, to determine their needs and to help solve any problems eg: helping customers choose the right ski hire equipment and apparel.
- 1.1.4 You will gain confidence in yourself by concentrating on the selling techniques that you find successful and by knowing all you can about the merchandise in your Cable Water Ski shop.
- 1.1.5 Your confidence, efficiency and professionalism will impress your customers and encourage them to return.
- 1.1.6 Do not be afraid to be self-critical. Learn from your mistakes and work at improving your techniques.

#### 1.2 Your Attitude to Customers

- 1.2.1 Your customers are just like you and are motivated by the full range of human emotions and desires.

## CABLE WATER SKI

- 1.0 SALES AND CUSTOMER SERVICE - continued
- 1.2 Your Attitude to Customers - continued
- 1.2.2 Understanding what motivates your customers to make a purchase is the key to successful selling techniques. Take interest in your customers and try to understand the way in which people make the decision to purchase and the important elements in that decision eg: their attitude to price, quality, brand of manufacture, popularity, colours, style and, of course, you.
- 1.2.3 The customer is the lifeblood of every retail organisation - never underestimate his/her importance.
- 1.2.4 Frame your attitude to your customers around the fact that they are doing you a favour by presenting you with the opportunity for a sale.
- 1.2.5 Arguing with customers or matching wits with them must be avoided at all cost.
- 1.3 Qualities of a Cable Water Ski Sales Person
- 1.3.1 The impression that customers take away with them from your Cable Water Ski operation is very much dependent upon your image as their salesperson.
- 1.3.2 You must enjoy meeting people, talking to them, understanding them and have a genuine desire to satisfy their particular leisure activity needs.
- 1.3.3 A pleasant appearance is vital - untidy, unkempt, dirty salespeople will not be tolerated.
- 1.3.4 A pleasant voice is essential - people who speak in an irritating manner or use derogatory or offensive expressions to customers will not be tolerated.

## CABLE WATER SKI

### 1.0 SALES AND CUSTOMER SERVICE - continued

#### 1.3 Qualities of a Cable Water Ski Sales Person - continued

1.3.5 The ability to listen to what your customers say to you is important as you will then be able to present your product(s) to the customer in a manner which will fulfill his/her needs.

1.3.6 The ability to smile and give an air of cool efficiency, even at times when customers seem too demanding and everthing seems to go wrong, will help you to convey to customers that you can't be ruffled and that you are on top of the situation.

#### 1.4 Product Knowledge

1.4.1 Before you even begin selling any Cable Water Ski products, it is important to have a thorough knowledge of the merchandise so that customers will respect what you say and be more likely to make a purchase.

1.4.2 Within each product category, you will need to know about the range of makes, types, sizes, colours and styles available as well as the prices, uses and guarantees.

1.4.3 You must know how to use every item displayed in the shop - you will then be seen as an expert in the eye of your customers, who expect you to know everything.

1.4.4 If there is anything you are unsure about, ask your Cable Water Ski representative and keep up to date by reading as many Australian and overseas Water Skiing and Boating magazines as possible.

## CABLE WATER SKI

### 1.0 SALES AND CUSTOMER SERVICE - continued

#### 1.5 Greeting the Customer

- 1.5.1 The initial contact with the customer is vital and is often instrumental in losing potential sales.
- 1.5.2 Two extremes seem to be popular - the approach where sales people "pounce" on customers and start to pressure them into buying and the situation where no approach is made to the customer or comments such as "are you right?" or "can I help you?" are used - questions which invite a "yes" or "no" response from the customer.
- 1.5.3 A happy medium exists - one which allows you to get on a friendly and helpful footing with the customer from his/her response.
- 1.5.4 Greet the customer naturally, pleasantly and courteously eg : "good morning, how can I help you?" or "hello, welcome to Cable Water Skiing". Use your imagination and the individual situation to think of other ways to greet the customer.
- 1.5.5 Timing is important - give customers a few moments on their own to browse and become familiar with the product range then your greeting will be more welcome.
- 1.5.6 Work towards making the "atmosphere" of your Cable Water Skiing operation and its salespeople friendly and approachable.
- 1.5.7 A pleasant parting comment is important to ensure that the customer's experience at Cable Water Ski is an enjoyable and memorable one. eg : "Thank you. Hope you enjoyed yourself and come back again".

## CABLE WATER SKI

### 2. OPERATION OF THE CABLEWAY

#### 2.1 Objectives of the Operator

- 2.1.1 The operator's number one priority is to ensure skiers' safety.
- 2.1.2 To keep the cableway running at maximum efficiency.
- 2.1.3 To keep cableway down-time to a minimum.
- 2.1.4 To keep the hooks full.

#### 2.2. Duties of the Operator

- 2.2.1 To operate the cableway from the start control
- 2.2.2 To ensure skiers' safety on corners.
- 2.2.3 To control the exiting and introduction of skiers and the handing of ropes to skiers.
- 2.2.4 To control the speed of cableway.
- 2.2.5 To supervise speed of lift on mono run (at your discretion)

NB: Guide to speeds:

- If all skiers are competent on cornering and are behaving well, put speed up by 2km, maximum speed 40km.
  - If someone makes a mistake, speed comes down.
- 2.2.6 To lock speedometer, put tower control in, bring in microphone and throw switches in power room if you are the last operator.

#### 2.3 Operating the Cableway

- 2.3.1 Concentrate very carefully, talk only when necessary.
- 2.3.2 Watch the tower above, pick-up fork, elevator and loading bar.

## CABLE WATER SKI

2. OPERATION OF THE CABLEWAY - continued
- 2.3 Operating the Cableway - continued
- 2.3.3 Occasionally look at hooks as they pass to check for any irregularity.
- 2.3.4 Listen to the noises associated with the running of the cableway. Get used to the sounds - when something is out of place, you'll hear it.
- 2.3.5. Sit on the seat. Relax.
- 2.3.6 You control the left of the upright directly in front of you with left hand and right side with right hand. Left hand operates pick up lever, moves ropes down after retrieval by elevator (very important as it stops ropes from crossing over) and pushes speed-up bar for elevator. Right hand operates loading bar and hands ropes to skiers.
- 2.3.7 Be very gentle with pick-up arm, don't crash it against the stops. Practice is the only way to smooth out this operation.
- 2.3.8 After retrieving a rope, return arm so ball rope comes up between grabs on elevator. If not picked up immediately, use speed up bar (only necessary on fast run). Watch until ball rope is picked up.
- 2.3.9 Now move attention to loading bar. Return bar forward and return lever to semi-cocked position. Make sure correct rope is next.
- 2.3.10 Pull ropes down with left hand and hand a rope to the next skier with the right. When there are skiers on hooks you have time to put handles together.
- 2.3.11 Usually you can watch the elevator to ensure no ropes jump over the cables when going into the magazine.

## CABLE WATER SKI

2. OPERATION OF THE CABLEWAY - continued
- 2.3 Operating the Cableway - continued
  - 2.3.12 When two ropes come in the one carrier, pick them up, but don't pick up the next unoccupied rope, as you need time to stop elevator and uncouple one of the ropes.
  - 2.3.13 If skiers go too wide on corner uncouple them.
  - 2.3.14 When tow line tangles in pick-up fork, it's usually operator's error. Don't try to pick up ropes too late. Let them go until you've had more experience.
  - 2.3.15 On slow speed, if skiers are competent, they can ski inside the tangled tow line, but don't endanger other skiers. If there is danger stop the cableway.
  - 2.3.16 Try to pick up all empty ropes if possible. There is much less danger to skiers who have fallen.
  - 2.3.17 If the elevator tangles a rope and stops moving, immediately hit stop switch. Cables will very quickly cut into nylon drive pulley.
  - 2.3.18 Use microphone only when necessary - animator can tell skiers when they're not doing the right thing.
  - 2.3.19 When second start point is operating, watch what's happening. It's not difficult to see ropes and skiers. Use common sense by leaving hooks or ropes or both, when necessary.
  - 2.3.20 Don't forget to change speed before next session (if necessary).

## CABLE WATER SKI

### 3. ANIMATING

#### 3.1 Objectives of the Animator

- 3.1.1 To teach skiers correct procedures.
- 3.1.2 To instill confidence in skiers.
- 3.1.3 To generally help, whenever possible, skiers and operator.

#### 3.2 Duties of the Animator

- ① 3.2.1 To give instruction before session begins. Talk to skiers about their techniques and how they can improve.
- ① 3.2.2 To help them and give them confidence. Watch skiers around the course. You must tell them when they have done something wrong, not the operator.
- ② 3.2.3 To pull in dropped ropes and scramble up tower when ropes tangle in pick-up fork or elevator.
- ② 3.2.4 To make sure skiers have correct stamps.

#### 3.3 Procedure for the Animator

- ① 3.3.1 Tell skiers to be ready to go at all times. They must have skis on or be on kneeboards 2 or 3 skiers before starter.
- ① 3.3.2 Explain and stress the fact that skiers won't go around the course if they don't go through the red buoys.
- SP 3.3.3 Tell skiers, if they fall, they must move immediately away from that area. They should push skis or board forward to nearest bank and then swim to the bank, always watching for oncoming skiers. The next skier must take path through buoys, so skiers must not be in the way.
- SP 3.3.4 White buoys are for exit only. Tell skiers to drop handle at buoys. Explain that this gives operator time to pick up rope and introduce the next skier. This gives more skiing time for everyone.

CABLE WATER SKI

3. ANIMATING - continued

3.3 Procedure for the Animator - continued

SP 3.3.5 Tell skiers if they fall to always look behind for following skiers, or empty ropes. Rope handles are made of wood and can cause injury if they hit a fallen skiers. Tell them to move quickly from the starting path if they fall and not to hold onto the rope handle.

NA 3.3.6 Stress to knee boarders that the only way off a board is to pull strap. Tell them to practice a few times before they go. If boards wobble or hop, they must lean further over the front of the board.

SP  
T. (D) 3.3.7 Show correct start position for double ski beginners. Squat down, explain and show them that they will pull on the rope if they have weight back. The skis don't resist on water when skier tries to pull himself forward. Skis go forward skier goes backwards into the water.

TO 3.3.8 Tell them to stand from the squat position first, keeping knees slightly bent and then straighten from the waist. This keeps weight forward and stops them from pulling on the rope. Bent knees work like shock absorbers.

TO 3.3.9 Tell skiers to ski 3 circuits then exit. Then get on the back of the line

TO 3.3.10 Tell skiers to hassle other skiers if they see them skiing too many circuits.

CR 3.3.11 As skiers proceed down ramp check the stamps. Check list to see what stamp is being used that day.

SP 3.3.12 Get beginners to squat down and check their positions well before they get to the start ramp.

## CABLE WATER SKI

### 3. ANIMATING - continued

#### 3.3 Procedure for the Animator - continued

TO (3)

3.3.13 Occasionally, walk along and ask skiers if they have any problems. Explain what's wrong and how to correct it. It is very important to watch and try to remember skiers on the ramp and on the course. Use their hair, suit colour, type of pants or some peculiarity. Stand close and speak slowly. Use a low soft tone as it sounds more personal to the skier and instills confidence in him. When there is a general problem or someone does something you can use as an example, get the attention of the whole group and let them know.

CR (1)

TO (1)

3.3.14 Important, ensure skiers leave some slack on line. Wear on ball ropes is very high and sometimes carrier won't accept rope if line is taut.

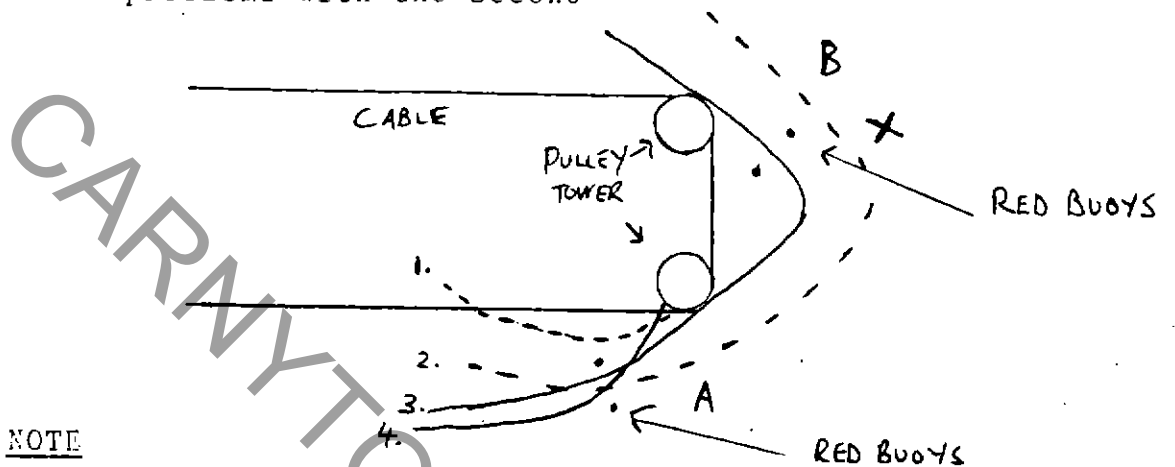
CARVY.TOWN.COM

## CABLE WATER SKI

### 4. TEACHING CORRECT SKIING TECHNIQUE

#### 4.1 Corners

- 4.1.1 The skier must pass between the red buoys, on each corner and then immediately turn left. He must keep close to the buoys. If the first corner is skied correctly, there should be no problems with the second



#### NOTE

1. Going inside the red buoys will result in a slack tow line. After passing the buoys, the skier starts to sink into the water and then as carrier takes up slack, the skier may be pulled off the skis.
2. Pulling too long to the red buoy will result in a big whip and the skier will either be pulled off the ski's as the carrier rounds the corner pulley, or at slower speeds, the skier will be pulled forward at point A. If the first corner is completed in this manner, at the second corner, because the skier has accelerated due to whip, the skier will either sink into the water as carrier catches up to the skier's speed then pulled off the skis at point X. Alternatively if the skier goes wide he will be pulled forward and off the skis. This is the most common fault when cornering.

## CABLE WATER SKI

### 4. TEACHING CORRECT SKIING TECHNIQUE - continued

#### 4.1 Corners - continued

##### Notes - continued

3. This is correct procedure. The skier must pull to corner 50 or 60 metres before red buoy. Then stand upright on skis before red buoy (to allow the skier to slow down) then turn around buoy and under pulley. The skier must pull again to the point before next buoy and perform the same cornering procedure.
4. Turning too sharply after red buoy or not going through the buoys will produce slack line and the skier will be pulled off the skis.

#### 4.2 Exit

There is one white buoy on the third corner. This is the exit buoy. After three laps, the skiers must drop the handle as they pass this buoy. This gives operator time to pick up empty rope and engage a new skier. Keep hooks fully occupied to give all skiers more skiing.

#### 4.3 Beginners or Double Skiers

Explain starting and skiing instructions position (see Section 7 - Animating Instructions). To put skis on, advise the skier to wet bindings and feet for easier insertion, roll back heel flap and front flap, push toes into binding and push heel down while turning flap up at rear.

## CABLE WATER SKI

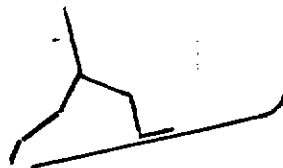
### 4. TEACHING CORRECT SKIING TECHNIQUE - continued

#### 4.4 Slalom Skiers

Instruct the skier as per follows :

Sit on dock, ski tip front up, front leg bent and slightly forward, back foot resting on ledge under dock. As carrier starts to move forward, step onto water (not into). Keep front leg slightly bent, rear leg trails in water, with toes acting as a balance, keep back straight, not bent at waist. When confident move rear foot to binding. If unable to put in, just rest foot on top of binding. If ski wobbles violently, the skier may be bent forward too much. Alternatively if skier is leaning too far back, he may pull on rope and lose control. The usual fault is to lean too far over the front of the ski. Flat bottom ski s should be used for beginners or skiers having problems.

CORRECT



INCORRECT



#### 4.5

#### Advanced Slalom

Speed increases should only occur when skiers can handle corners and exit procedures correctly. Put onus on skiers to do it correctly. If someone does the wrong thing, speed decreases again. Make this point known to all skiers. This should ensure that the group controls individuals who are acting irresponsibly.

## CABLE WATER SKI

### 4. TEACHING CORRECT SKIING TECHNIQUE

#### 4.6 Knee Boards

Beware, straps can be very dangerous. Board riders must be told falling procedure and be made to practice strap removal before proceeding into ski course. Riders should make slight weight shift to rear as rope pulls them from ramp. Also, if boards wobble, move weight slightly forward. Remind riders about straps. You don't want riders trapped under a board.

#### 4.7 Falls

If skiers' fall or go too wide on the corner, tell them to immediately release the handle. If they don't, it may cause cableway down time or skier injury. Tell fallen skiers to move from oncoming skier's path especially on corners and at start. Tell them to watch for empty ropes as handles may cause serious head injuries or, if skiers fall inside the corner, rope burns.

#### 4.8 All Skiers

Always be ready for next start. Keep hooks full - which means more skiing for skiers. Also ropes in the water should be retrieved if skier happens to fall in the vicinity of the start.