

## Ladder Hoist

Instruction and safety information

Read before operating the ladder hoist

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## **Warning**

- Do not erect the ladder hoist near overhead cables, electricity power lines or wires.
- Erect ladder hoist on firm and level ground.
- Tighten all bolts and nuts securely or ladder hoist failure will occur under load and may cause damage or injury.
- Do not ride on hoist carriage.
- Do not climb on hoist ladder. Ladder is meant for hoisting material only.
- Do not remove safety cover when engine is running.
- Do not jam on brake or apply excessive force on brake handle. Brake band may break and serious damage or injury may occur.
- Lower the carriage to the bottom home position when the hoist is not in use or when servicing.
- Belt must be installed properly under the belt guard at the engine gearbox.
- Read the engine manual and follow the instructions and warnings.

Warning labels have been included on the equipment. If the warning labels wear off, please request new ones.

Misuse of the ladder hoist may result in injury or damage. SPAR-Marathon provides instructions for its safe use and relies on the purchaser to ensure that these instructions are given to the personnel who will actually be using the equipment.

It is the responsibility of the purchaser to ensure that the personnel operating the ladder hoist is trained in the proper operating procedures and all safety regulations.

The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to work environment to control or eliminate any hazards or other exposure to illness or injury.

Regulations governing the use, selection and maintenance of personal protective and lifesaving apparatus regulations must be followed.

SPAR-Marathon ladder hoist is designed and manufactured for hoisting material only. Any other use of this equipment will void any warranty or responsibility, expressed or implied, on the part of the manufacturer.

Ladder hoist should be operated by experienced personnel only. It is a good idea to barricade the hoisting area and to keep unauthorized persons away from it.

## **Introduction**

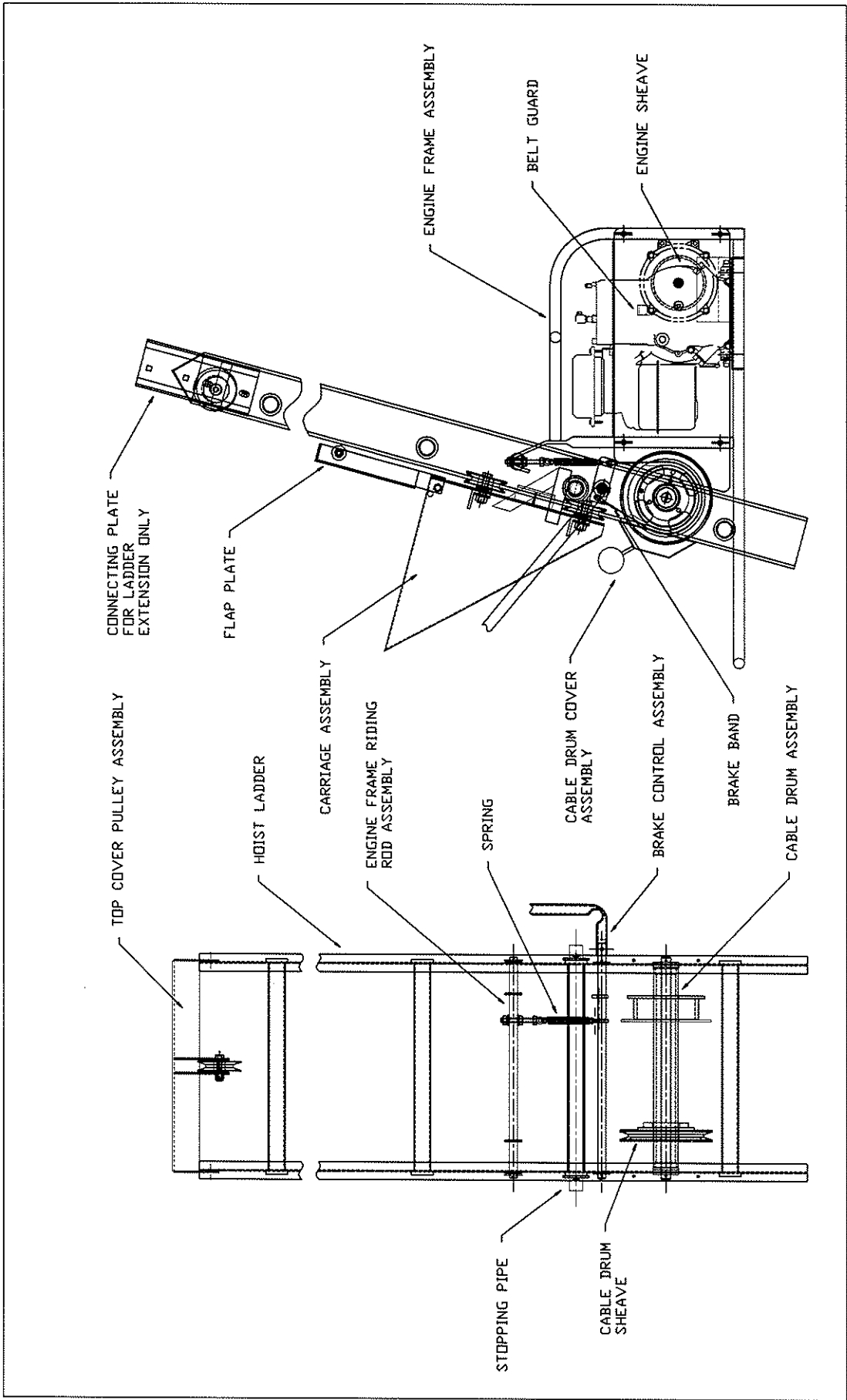
SPAR-Marathon ladder hoist is designed for easy and trouble free operation. It is designed for hoisting roofing materials to the roof up to 44 feet, easily and effectively. All sheaves, wheels and pulleys use sealed ball bearings to reduce maintenance and provide longer ladder hoist life. All moving parts are covered with safety covers for maximum personal safety.

SPAR-Marathon ladder hoist standard package comes with one 16 foot ladder with feet, one 8 foot section and one 4 foot section. Ladders of 16 feet, 20 feet, 24 feet and 28 feet can be assembled with these sections. (Optional ladder section is available to extend the ladder hoist to 44 feet. Ladder hoists longer than 28 feet require the use of ladder supports.)

SPAR-Marathon ladder hoist features include:

- Heavy duty aluminium ladder
- One handle brake operation
- Self-locking brake
- Foot control belt clutch
- Self contained 16 foot ladder hoist needs no assembly
- Sealed ball bearing wheels, pulleys and sheaves
- Steel safety covers on all moving parts
- Steel belt guard
- Heavy duty engine frame
- 200 lbs hoisting capacity
- Maximum hoist speed various to 280 feet per minute  
( based on 130 feet, 5/32 diameter aircraft cable )

Specifications are subject to change without notice.



## **Assembling of ladder hoist**

**⚠ Warning** Tighten all bolts and nuts securely or ladder hoist failure will occur under load and may cause damage or injury.

There is no assembly required if 16 foot ladder is needed. If longer ladder hoist is required, select a suitable length so that the ladder top is project 2 to 2 1/2 feet above the roof line.

Assemble the ladder as follows:

- Lay the 16 foot ladder on the side with the brake handle on top.
- Remove the cable bolt and nut from the back of the carriage.
- Loosen the cable from the top pulley and put on the side.
- Lay the 16 foot ladder flat on the ground with the carriage on top. Care must be taken not to damage the cable drum assembly. (Use anything high enough to raise the ladder bottom section so that the cable drum assembly is clear from the ground)
- Loosen the top cover pulley assembly.
- Slide the connecting plate into both I-beams on the outside slot of the ladder.
- Slide the extension ladder section onto the connecting plates.
- Tighten the connection plates securely on the ladder with bolts and nuts.
- Slide the top cover pulley assembly to the top of ladder and bolt securely.
- Release brake and pull required length of cable out from the cable drum.
- Thread the cable through the pulley on the top pulley cover assembly and bolt securely to the back of the carriage.
- Release brake and rotate the cable drum by hand to take up the loose cable.

## **Erecting the ladder hoist**

**⚠ Warning** Do not erect the ladder hoist near overhead cables, electricity power lines or wires.

Extreme care must be taken to erect the ladder assembly due to its long length and heavy weight.

Two methods are suggested for erecting the ladder assembly.

### **Method 1**

Lay the ladder assembly on the ground with the carriage on top and parallel to the wall of the building where the ladder will be resting on. Care must be taken not to damage the cable drum assembly. (Use anything high enough to raise the ladder bottom section so that the cable drum assembly is clear from the ground)

One person on top of the roof lowers a rope to the ground. A person on the ground ties the rope end to the top cover pulley assembly. While the person on the roof pulls against the rope to raise the ladder, the person on the ground braces the feet of the ladder to avoid the ladder from slipping.

Another person on the ground can help raise the ladder by pushing the ladder rail or rung hand over hand from ladder top towards the bottom side.

Carefully rotate the ladder assembly 90 degrees when ladder is in a vertical position. The carriage should be facing outside. Move the ladder feet away from building wall equal to 1/4 of the building height. Be sure to add the length equal to the overhang if applicable. (15 degrees to vertical)

Tie the ladder securely to the roof with a rope fastened to the rung of the ladder. Do not tie on the rail.

### **Method 2**

Lay the ladder assembly on the ground with the carriage on top and perpendicular to the building with the ladder feet against the wall. Care must be taken not to damage the cable drum assembly. (Use anything high enough to raise the ladder bottom section so that the cable drum assembly is clear from the ground)

One person on top of the roof lowers a rope to the ground. A person on the ground ties the rope end to the top cover pulley assembly. While the person on the roof pulls against the rope to raise the ladder, the person on the ground pushes the ladder rail or rung hand over hand from ladder top towards the bottom side.

Carefully rotate the ladder assembly 180 degrees when ladder is in a vertical position. The carriage should be facing outside. Move the ladder feet away from the building wall equal to 1/4 of the building height. Be sure to add the length equal to the overhang if applicable. (15 degrees to vertical)

Tie the ladder securely to the roof with a rope fastened to the rung of the ladder. Do not tie on the rail.

### **Mounting the power unit**

**⚠ Warning** Make sure the belt is installed under the belt guard for proper operation. Damage or injury will occur if belt is not installed properly.

**Note:** No need to remove safety covers to slide belt under the belt guard and onto the sheaves.

Tilt the engine frame on a small angle with engine side higher. Slide the hooks on the engine frame to the rod between two washers on the ladder.

Carefully lower the engine frame so that the treadle rests on the bottom edge of the bottom rung.

Slide the belt onto the sheave on the cable drum.

Slide the other end of the belt under the belt guard on the engine, then slide belt onto the sheave on the engine.

### **Operation**

**⚠ Warning** Do not remove safety covers when engine is running.

Lower the carriage to the bottom home position when the hoist is not in use or when servicing.

Do not jam on brake or apply excessive force on brake handle. Brake band may break and serious damage or injury may occur.

Check the hoist condition each time before using the equipment. Repair or replace components if they are damaged or in bad condition.

Do not operate the ladder hoist if the brake is wet. Follow procedure outlined in maintenance section.

**Note:** Read the engine manual for engine operation.

### **Raising the carriage and load**

To raise the carriage, start the engine as outlined in the engine manual. Step on the treadle to engage the belt clutch. The carriage will roll up the rail. Use slower speed when the carriage nearly reaches the top. Releasing the treadle will engage the brake automatically and hold the carriage in desired position.

### **Lowering the carriage and load**

To lower the carriage, raise the brake handle slowly. The carriage will roll down the rail. Lower the carriage slowly and always keep control of the lowering speed. Use slower speed when the carriage is near the bottom home position to avoid carriage from ramming the stopping pipe, which may cause equipment damage or personal injury.

### **Maintenance**

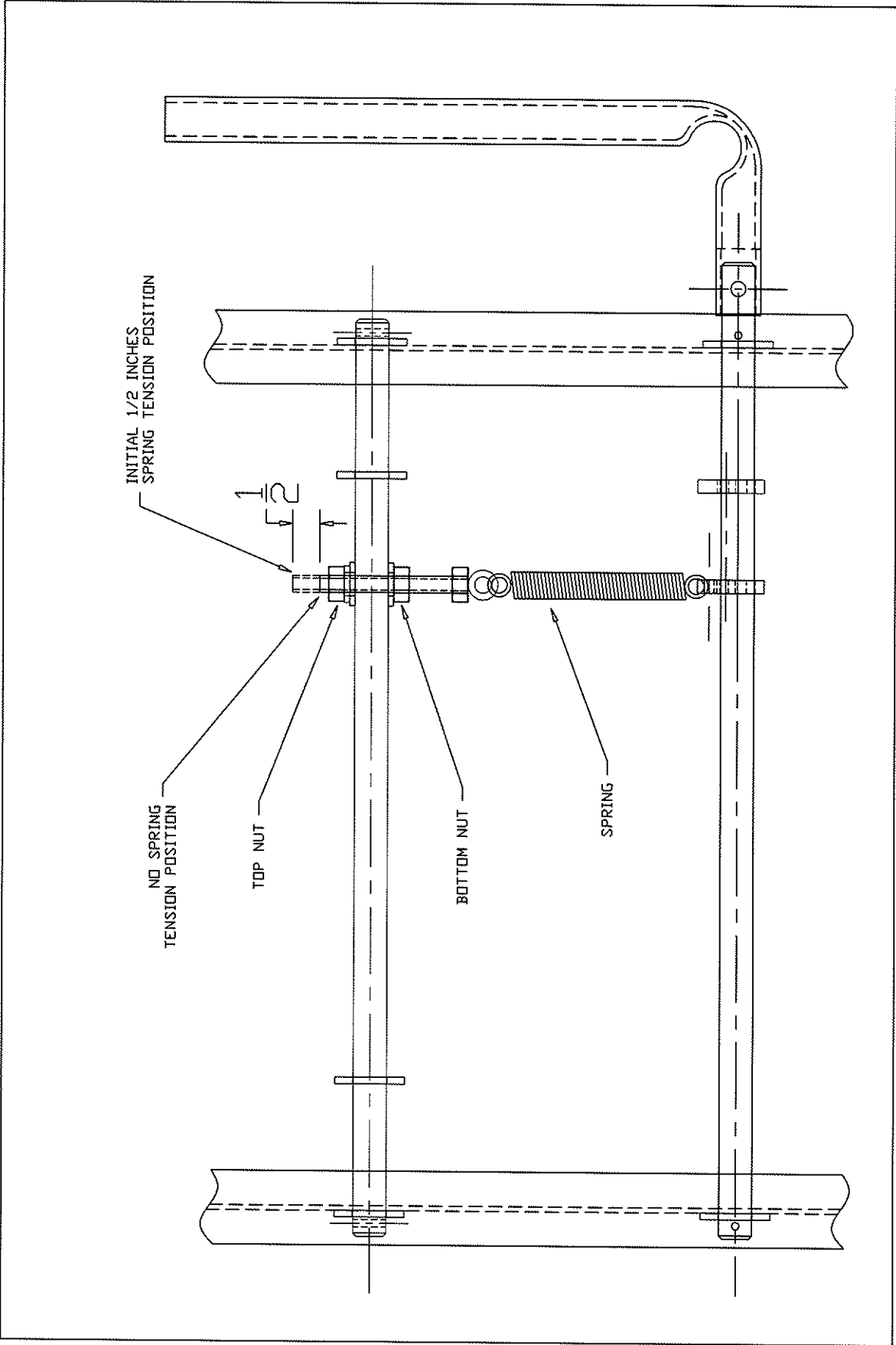
Sealed ball bearings are used in all the wheels, pulleys and sheaves. It is not necessary to grease these components.

Grease the pivot point at the flap plate and carriage occasionally.

Always keep the brake assembly dry, clean and avoid grease or oil contamination.

If the brake is wet, do not operate the ladder hoist for hoisting material. The brake is difficult to control and the carriage will slip under load. Dry the brake by running the carriage without a load up and down the hoist a few times until the brake functions properly. Keep hand on the brake handle and apply force to assist braking if necessary. (Normally, releasing the brake handle will stop the carriage.) Avoid hoisting heavy loads on the carriage the first few hoists when back in operation. Always keep hand on the brake handle and apply force to assist braking if necessary.





If oil or grease is found on the brake assembly, use grease or brake cleaner to clean the brake. Follow the cleaner instructions to avoid damage to the brake pad.

If brake band has to be removed for any reason, mark the orientation and install it back to the hoist with same orientation as before removing.

Replace brake band if it is worn out or damaged.

For engine maintenance, refer to the engine manual.

### **Brake adjustment**

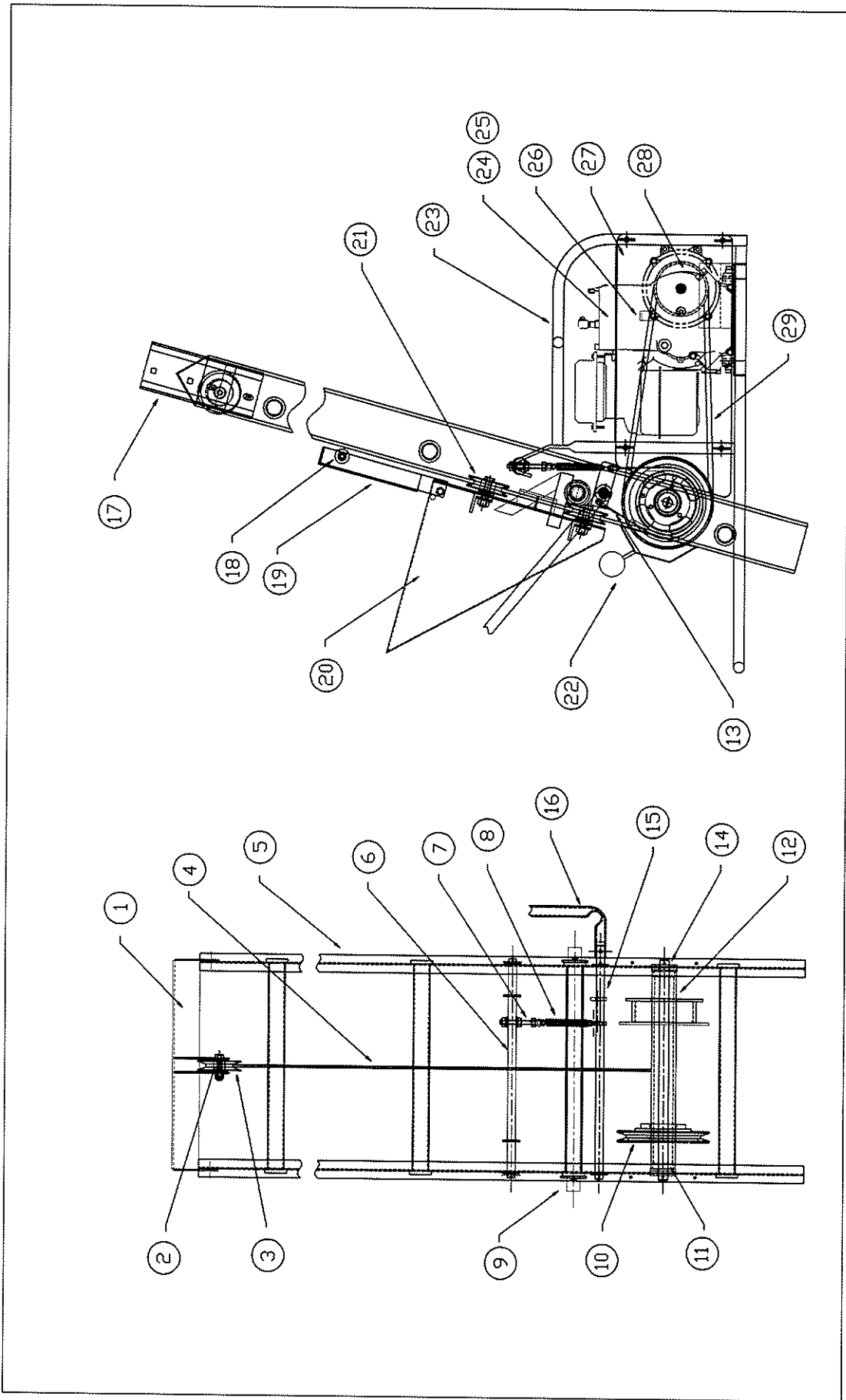
**⚠ Warning** Do not over tighten the spring tension, hoist performance will be adversely affected and brake will wear out faster.

**Note:** Before adjusting the spring tension, make sure the brake slipping is not due to oil or grease contamination. If oil or grease is found on brake drum or brake band, follow cleaning procedure outlined in maintenance section.

The brake initial pressure is factory preset to give optimum performance. However, brake adjustment is necessary after the brake wears out or if the carriage starts drifting down the rail with load.

If carriage drifts occurs, lower the carriage and load to the bottom home position and turn off the engine. Loosen the bottom nut on the spring thread rod a few turns, then tighten the top nut 2 turns clockwise. Finish the procedure by tightening the bottom nut. Check if the carriage drifts. If the carriage still drifts, tighten top nut two turns at a time until the brake holds the carriage.

If the brake band has to be removed for service or replacement. Make sure to put it back in its original orientation. Adjust the spring initial tension by tightening the top nut 9 turns clockwise (1/2 inches) from no tension on spring. Then tighten the bottom nut. If the carriage still drifts, tighten top nut two turns at a time until the brake holds the carriage.



**Parts List**

ITEM	PART No.	DESCRIPTION	QTY
1	SLH2-A6	TOP COVER	1
2	SLH2-78	TOP SHEAVE BEARING R6ZZ	2
3	SLH2-73	TOP SHEAVE BS32 X 7/8 BORE	1
4	SLH2-119	5/32 DIAMETER AIRCRAFT CABLE X 75 FEET	1
5	SLH2-107	16 FT. LADDER WITH FEET	1
6	SLH2-A9	ENGINE FRAME RIDING ROD	1
7	SLH2-123	SPRING THREAD ROD C/W NUTS & WASHER	1
8	SLH2-61	SPRING	1
9	SLH2-106	CARRIAGE STOPPING PIPE	1
10	SLH2-31	CABLE DRUM SHEAVE TBW68	1
11	SLH2-34	CABLE DRUM BEARING R12-LLB	2
12	SLH2-A3	CABLE DRUM WITH BRAKE DRUM	1
13	SLH2-A8	BRAKE BAND	1
14	SLH2-25	SHAFT	1
15	SLH2-A5	BRAKE CONTROL ROD	1
16	SLH2-58	BRAKE HANDLE	1
17	SLH2-105	CONNECTING PLATE	2
18	SLH2-20	FLAP PLATE WHEEL 1614-2RS	2
19	SLH2-05	FLAP PLATE	1
20	SLH2-A2	CARRIAGE	1
21	SLH2-14	CARRIAGE SHEAVE AG2321A	4
22	SLH2-A4	FRONT SAFETY COVER	1
23	SLH2-A7	ENGINE FRAME	1
24	SLH2-114	3.5 HP BRIGGS & STRATTON ENGINE 91252-0049	1
25	SLH2-114A	4 HP HONDA ENGINE GX120K1HX	1
26	SLH2-108	BELT GUARD	1
27	SLH2-87	ENGINE BELT COVER	1
28	SLH2-115	ENGINE SHEAVE MB45 X 3/4 BORE	1
29	SLH2-116	V-BELT BX51	1