

MANUFACTURING ELECTRICAL ENGINEERS.

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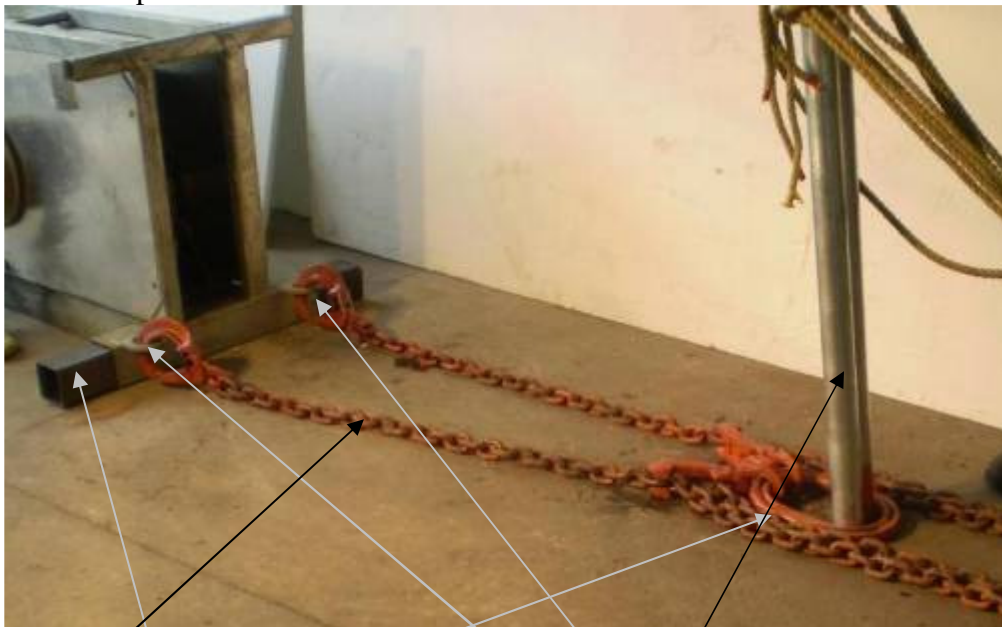
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- A. Rope guide roller
- B. Capstan in middle
- C. Drive Motor
- D. Chain plate

Hydraulic motor and quick coupler
Chain Plate



- Stabilizer bar x 2
- Chain plate
- Chain or wire stops to ring (same rating as winch)
- Post or concrete blocks (same rating as winch)

Instead of a ground post/pole you can attach the winch to a heavy vehicle, tractor, digger or truck, Ensure in low gear, the brakes are on and the wheels are chocked.

Post Fence or Pole minimum 200mm diameter must be ground attached and the ring attaching the chain to the anchor point must be attached at ground level. Post or log minimum 200mm Diameter x 2m long or hardwood railway sleeper – dig a trench 600mm deep x 2m long and a side trench 600mm deep x 1m long from centre for anchor strops



Pins Dead Man - Drive 3x20mm pins in a triangle formation, 600mm into the ground and attach attached either chain or rope at the bottom of the pins where they enter the ground

Move out 1½ meters and drive 3 more pins in Δ, tie rope at the top of pins to ground level on anchor pins. Load test winch and add more pins if necessary.

Concrete Blocks usually available from local concrete plant for hire approximate 1 ton each. Deliver by hiab and arrange in square and wrap the strop around above ground level.

Quantity budgeted - 1 ton winch, 2 x block
2 ton winch, 3 x block
3 ton winch, 5 x block
5 ton winch, 8 x block

Anchor strop used to attach the chain or rope to the anchor post, pins or concrete blocks. Note these must be load rated to exceed winch capacity.

Stabilizer bar should be fitted in hollow section by chain anchors to prevent winch from tipping over. Can also be Dyna bolted to floor on ground



Load cell and shackle (same rating as winch) – Digital Crane Scale\Load Cell with peak load.
Fragile handle with care and keep dry.



Guide roller closed. Winch should be arranged in such a way that guide rollers are in line with pull as any side loading will twist capstan sideways.



Guide roller open to insert or remove haul rope.

Available capstans



Larger Capstan
Low speed



Smaller Capstan
High speed

Small Capstan max Pull Slow
Large Capstan reduce Pull Fast
With 2 capstans and engine a wide range of pulling speeds and tensions can be obtained.

Hydraulic drive motor

Danfoss hydraulic motor divert coupled to heavy duty reduction box. Ensure quick couplers clean before attachment as dirty couplers may leak hydraulic oil or possibly blow off.

See power pack detail.

Stabilizer bar x 2

Recommend 2 off angle 75x75x5 with 3x12m hole each end for direct pulling with ground anchors into a concrete floor. Note: Check detail of concrete before drilling.

Anchor chain

Use double chain on ring with 2 x safety hooks into chain plate. Chain must have same rating as winch.

Chain plate

Arrange to coupler 2 anchor chains one to each side. At least equivalent to winch rating.

Digital load cell

Digital load cell is very expensive and not water proof. Treat with extreme care when attach to winch and anchor with shackles supplied. Keep clean and dry. Has 2 set points read instruction on unit. 1 x set point is alarm. 2 x set point on some units will be connected to hydraulic power pack and will turn drive on and stop winch. 3 x set point is auto and will hold up to maximum load indication.

Types available see separate data sheets.

- A. Standard load indication
- B. Drive off
- C. Computer link for recording

Anchor B,G,G+,H,I,I+,J

A selection of options to anchor winch. Due to various situation arise where hauling is done these options are necessary.

In all cases before connecting to cable run out haul rope and test anchors, roller and guide first. Refer roller instruction sheet.

Haul rope. We use an industrial grade synthetic rope of following sizes and capacity at minimal stretch.

	Break Kg	Safe work load Kg
12mm	2654	1327
16mm	4600	2300
20mm	7000	3500
28mm	13600	6800

For long pulls always use larger rope to reduce stretch.

Transport & Lifting the unit used must be lifted and transported vertically. **DO NOT TIP** on side or upside down as engine oil will flood filter, carburator, cylinder, if not the engine will not be able to start.